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 NEWS  3  FEB 25   CA/CAPLUS - Russian Agency for Patents and Trademarks
                   (ROSPATENT) added to list of core patent offices cove
 NEWS  4  FEB 28   PATDPAFULL - New display fields provide for legal sta
                   data from INPADOC
 NEWS  5  FEB 28   BABS - Current-awareness alerts (SDIs) available
 NEWS  6  FEB 28   MEDLINE/LMEDLINE reloaded
 NEWS  7  MAR 02   GBFULL: New full-text patent database on STN
 NEWS  8  MAR 03   REGISTRY/ZREGISTRY - Sequence annotations enhanced
 NEWS  9  MAR 03   MEDLINE file segment of TOXCENTER reloaded
 NEWS  10 MAR 22   KOREAPAT now updated monthly; patent information enha
 NEWS  11 MAR 22   Original IDE display format returns to REGISTRY/ZREGI
 NEWS  12 MAR 22   PATDPASPC - New patent database available
 NEWS  13 MAR 22   REGISTRY/ZREGISTRY enhanced with experimental propert

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               AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005

=> file uspatful
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 31 Mar 2005 (20050331/PD)
FILE LAST UPDATED: 31 Mar 2005 (20050331/ED)
HIGHEST GRANTED PATENT NUMBER: US6874161
HIGHEST APPLICATION PUBLICATION NUMBER: US2005071904
CA INDEXING IS CURRENT THROUGH 31 Mar 2005 (20050331/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 31 Mar 2005 (20050331/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2005

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=> s us4808536/pn
L1 1 US4808536/PN

=> d l1,cbib,ab,clm

L1 ANSWER 1 OF 1 USPATFULL on STN
89:14999 Immunochemical method for detection of antibody against HTLV-
protein based upon recombinant HTLV-III gag gene encoded protein.
Chang, Nancy T., Houston, TX, United States
Ghrayeb, John, Thorndale, PA, United States
Centocor, Inc., Malvern, PA, United States (U.S. corporation)
US 4808536 19890228 <-
APPLICATION: US 1986-834212 19860227 (6)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Immunochemical assays for detection of antibodies against HTLV-
proteins are described. The assays are based upon recombinant HT

core proteins expressed by cloned DNA segments of the gag region HTLV-III genome. Immunoreactive, chimeric HTLV-III core protein methods of producing these proteins are also described.

CLM What is claimed is:

1. A method of detecting antibody against HTLV-III core protein biological fluid, comprising the steps of: a. providing an antig immunoadsorbent comprising a solid phase to which is attached a core antigen which is a chimeric antigen comprising an amino aci sequence beginning at amino acid number 1 through 99, and extend amino acid number 228, as shown in FIG. 5, the chimeric antigen immunoreactive with antibody against HTLV-III core protein; b. incubating the immunoadsorbent with a sample of the biological f be tested under conditions which allow antibody in the sample to with the antigen immunoadsorbent; c. separating the immunoadsorb the sample; and d. determining antibody bound to the immunoadsor an indication of antibody against HTLV-III core protein in the

2. A method of claim 1, wherein the HTLV-III antigen is the pG2 polypeptide having an amino acid sequence substantially as shown 5.

3. A method of claim 1, wherein the biological fluid is human se plasma.

4. A method of claim 1, wherein the step of determining the anti bound to the immunoadsorbent comprises: (a) incubating the immunoadsorbent with a labeled antibody against immunoglobulin o species from which the biological fluid is derived; (b) separati immunoadsorbent form the labeled antibody; and (c) detecting the associated with the immunoadsorbent as an indication of antibody HTLV-III core protein in the sample.

5. A method of claim 4, wherein the biological fluid is human pl serum, and the labeled antibody is labeled anti-human IgG antib

6. A method of detecting antibody against HTLV-III core protein plasma or serum, comprising the steps of: (a) providing an antig immunoadsorbent comprising a polystyrene bead coated with an ess homogeneous preparation of pG2 polypeptide having the amino acid sequence substantially as shown in FIG. 5; (b) incubating the immunoadsorbent with a sample of human plasma or serum under con which permit anti-HTLV-III core protein antibody in the sample t complex with the pG2 polypeptide; (c) separating the immunoadsor from the sample; (d) incubating the immunoadsorbent with a solut labeled anti-human Ig antibody; (e) separating the immunoadsorbe the solution of labeled antibody; and (f) detecting the label as with the immunoadsorbent as an indication of anti-HTLV-III core antibody in the sample.

7. An immunoadsorbent comprising a solid phase support having at

thereto a HTLV-III core protein which is a chimeric antigen, com an amino acid sequence beginning at amino acid number 1 through extending to amino acid number 228, as shown in FIG. 5, the chim antigen being immunoreactive with antibody against HTLV-III cor protein.

8. An immunoadsorbent of claim 7, wherein the recombinant HTLV- protein is pG2 polypeptide having the amino acid sequence substa as shown in FIG. 5.

9. An assay for antibody against HTLV-III in a biological fluid comprising the steps of: a. providing an immunoadsorbent compris solid phase to which is attached mixture of (i) HTLV-III core p which is a chimeric antigen, comprising an amino acid sequence b at amino acid number 1 through 99, and extending to amino acid n 228, as shown in FIG. 5, the chimeric antigen being immunoreacti antibody against HTLV-III envelope protein immunoreactive with a against HTLV-III envelope protein; (b) incubating the immunoadso with a sample of biological fluid; (c) separating the immunoadso from the sample; and (d) determining antibody bound to the immunoadsorbent as an indication of antibody against HTLV-III i sample.

10. An assay for antibody against HTLV-III in a biological flui comprising the steps of: (a) providing an immunoadsorbent compri solid phase to which is attached approximately an equal amount o polypeptide having the amino acid sequence substantially as show FIG. 5 and HTLV-III polypeptide 121; (b) incubating the immunoad with a sample of biological fluid; (c) separating the immunoadso from the sample; and (d) incubating the immunoadsorbent with a s of anti-human Ig antibody; (e) separating the immunoadsorbent fr sample; (f) detecting the label associated with the immunoadsorb an indication of anti-HTLV-III antibody in the sample.

11. An immunoadsorbent comprising a solid phase coated with an e amount of pG2 polypeptide having an amino acid sequence substant shown in FIG. 5 and polypeptide 121.

12. A HTLV-III core antigen immunoreactive with antibody against HTLV-III core protein the antigen comprising an amino acid seque beginning at amino acid number 1 through 99, and extending to am number 228, as shown in FIG. 5.

13. PG2 polypeptide having the amino acid sequence substantially shown in FIG. 5.

14. An essentially homogeneous preparation of pg2 of claim 13 wh 98% pure protein.

15. A method of detecting antibody against HTLV-III core protei

biological fluid, comprising the steps of: (a) providing an anti immunoadsorbent comprising a solid phase to which is attached an HTLV-III core antigen immunoreactive with antibody against HTLV protein, the HTLV-III core antigen comprising an amino acid sequ beginning at amino acid number 1 through 99, and extending to am number 228, as shown in FIG. 5; (b) incubating the immunoadsorbe a sample of the biological fluid to be tested under conditions w allow antibody in the sample to complex with the antigen immunoadsorbent; (c) separating the immunoadsorbent from the sam (d) determining antibody bound to the immunoadsorbent as an indi of the antibody against HTLV-III core protein in the sample.

16. A kit for detecting antibody against HTLV-III core protein biological fluids, comprising, in separate containers, the compo a. an immunoadsorbent coated with a HTLV-III core polypeptide w chimeric antigen, comprising an amino acid sequence beginning at acid number 1 through 99, and extending to amino acid number 228 shown in FIG. 5, the chimeric antigen being immunoreactive with against HTLV-III core protein; and b. an anti-(human IgG) antib

17. A kit of claim 16, wherein the HTLV-III core protein has th acid sequence substantially as shown in FIG. 5.

18. A kit of claim 16, further comprising: (a) a diluent for the biological fluid; (b) a positive control solution; and (c) a neg control solution.

19. A kit of claim 18, wherein the positive control solution is containing antibody against polypeptide 121 and the negative con solution is sera that does not contain antibody against polypept

20. A method of detecting antibody against HTLV-III core protei biological fluid, comprising the steps of: a. providing an antig immunoadsorbent comprising a solid phase to which is attached a HTLV-III core antigen immunoreactive with antibody against HTLV protein, the chimeric antigen comprising an amino acid sequence beginning at amino acid number 1 through 99, and extending to am number 228, as shown in FIG. 5; b. incubating the immunoadsorben sample of the biological fluid to be tested under conditions whi antibody in the sample to complex with the antigen immunoadsorbe separating the immunoadsorbent from the sample; and d. determini antibody bound to the immunoadsorbent as an indication of antibo against HTLV-III core protein in the sample.

21. A method of claim 20, wherein the polypeptide is pG2 having amino acid sequence substantially as shown in FIG. 5.

=> s us5001230/pn

L2 1 US5001230/PN

=> d l2,cbib,ab,clm

L2 ANSWER 1 OF 1 USPATFULL on STN
91:22742 T cell activation markers.
Brown, Keith D., Hunters Hill, Australia
Mosmann, Timothy K., Atherton, Canada
Zurawski, Gerard, Redwood City, CA, United States
Kurawski, Sandra M., Redwood City, CA, United States
Schering Corporation, Kenilworth, NJ, United States (U.S. corporati
US 5001230 19910319 <-
APPLICATION: US 1988-157743 19880218 (7)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A polypeptide designated H400 and its encoding nucleic acid are as markers specific for activated human T cells. Activated t cel detected immunochemically by monoclonal antibodies specific for its immunogenic peptides. Activated T cells are also detected by acid probes directed to messenger RNA encoding the H400 protein.
CLM What is claimed is:
1. A nucleic acid capable of encoding the mature polypeptide of reading frame defined by the following amino acid sequence: ##ST

2. The nucleic acid of claim 1 defined by the following nucleoti sequence: ##STR5##

=> s us5874225/pn
L3 1 US5874225/PN

=> d l3,cbib,ab,clm

L3 ANSWER 1 OF 1 USPATFULL on STN
1999:24450 Identification of compounds that modulate HIV-1 vpr protein
.
Weiner, David B., Merion, PA, United States
Levy, David Nathan, Philadelphia, PA, United States
Trustees of The University of Pennsylvania, Philadelphia, PA, Unite
(U.S. corporation)The Wistar Institute, Philadelphia, PA, United St
(U.S. corporation)
US 5874225 19990223 <-
APPLICATION: US 1993-19601 19930219 (8)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed toward methods of identifying compounds which inhibit the human immunodeficiency virus (HIV) v protein R (Vpr) from stimulating the differentiation of undiffer cells. This invention takes advantage of the observation that ce

from rhabdomyosarcomas, which are tumors of muscle origin, have used as models of CD4-independent HIV infection. These cell line induced to differentiate in vitro. The vpr gene of HIV-1 is suf for the differentiation of the human rhabdomyosarcoma cell line Differentiated cells are characterized by great enlargement, alt morphology, lack of replication, and high level expression of th muscle-specific protein myosin. Morphological differentiation an inhibition of proliferation of other transformed cell lines foll vpr expression was also observed. This invention also relates to methods of identifying compounds which inhibit HIV Vpr binding t These screening methods should facilitate the identification and development of antiviral agents.

CLM What is claimed is:

1. An in vitro method of identifying compounds that are capable inhibiting HIV-1 Vpr-mediated differentiation of undifferentiate comprising the following steps: (I) contacting undifferentiated with HIV-1 Vpr in the presence or absence of a test compound; an determining whether said cells cease proliferating and display c differentiation markers in the presence or absence of a test com wherein the presence of cellular proliferation and absence of differentiation markers in the test sample is indicative of said compound being capable of inhibiting HIV-1 Vpr-mediated differe of undifferentiated cells.

2. The method of claim 1 wherein said undifferentiated cells are selected from the group consisting of: solid muscle tumor alveol rhabdomyosarcoma cell line RD, solid muscle tumor alveolar rhabdomyosarcoma cell line TE671, osteosarcoma cell line D17, osteosarcoma cell line MG63, osteosarcoma cell line HOS-TE86, m lineage cell line KG-1, myeloid lineage cell line THP-1, myeloi cell line PLB973, human glioblastoma cell line U-138MG, human glioblastoma/astrocytoma cell line U373MG, and human glioblastoma/astrocytoma cell line U87-MG.

3. An in vitro method of identifying compounds that are capable inhibiting HIV-1 Vpr-mediated suppression of cellular proliferat comprising the following steps: (I) contacting proliferating cel HIV-1 Vpr in the presence or absence of a test compound; and, (i determining whether said cells cease proliferating in the presen absence of said test compound; wherein the presence of cellular proliferation in the test sample is indicative of said compound capable of inhibiting HIV-1 Vpr-mediated suppression of cellular proliferation.

4. The method of claim 3 wherein said proliferating cells are se from the group consisting of: solid muscle tumor alveolar rhabdomyosarcoma cell line RD, solid muscle tumor alveolar rhabdomyosarcoma cell line TE671, osteosarcoma cell line D17, osteosarcoma cell line MG63, osteosarcoma cell line HOS-TE86, m lineage cell line KG-1, myeloid lineage cell line THP-1, myeloi

cell line PLB973, human glioblastoma cell line U-138MG, human glioblastoma/astrocytoma cell line U373MG, and human glioblastoma/astrocytoma cell line U87-MG.

5. An in vitro method for the identification of compounds capabl inhibiting HIV-1 Vpr binding to HIV-1 Gag comprising the followi steps: (I) contacting, in the presence or absence of a test comp HIV-1 Vpr and Gag; and (ii) determining the level of binding bet HIV-1 Vpr and Gag, wherein a reduction in binding in the presenc test compound is indicative of said compound being capable of in HIV-1 Vpr binding to Gag.

6. The method of claim 5 wherein said binding level is determine addition of a labeled antibody.

7. The method of claim 5 wherein said HIV-1 Vpr and Gag are pro eukaryotic cells.

8. The method of claim 5 wherein said HIV-1 Vpr and Gag are pro insect cells.

9. The method of claim 5 comprising the following steps: (I) con in the presence or absence of a test compound, eukaryotically ex HIV-1 Vpr and Gag, wherein said Vpr is attached to a solid suppo washing the mixture of step (I) to remove unbound Gag protein; a (iii) determining the level of binding between HIV-1 Vpr and Ga the addition of a Gag-specific labeled antibody, wherein a reduc binding in the presence of the test compound is indicative of sa compound being capable of inhibiting HIV-1 Vpr binding to Gag.

10. The method of claim 9 wherein said HIV-1 Vpr and Gag are pr insect cells.

11. The method of claim 5 comprising the following steps: (I) contacting, in the presence or absence of a test compound, eukaryotically expressed HIV-1 Vpr and Gag, wherein said Gag is to a solid support; (ii) washing the mixture of step (I) to remo unbound Vpr protein; and, (iii) determining the level of binding HIV-1 Vpr and Gag through the addition of a Vpr-specific labele antibody, wherein a reduction in binding in the presence of the compound is indicative of said compound being capable of inhibit HIV-1 Vpr binding to Gag.

12. The method of claim 11 wherein said HIV-1 Vpr and Gag are p in insect cells.

```
=> e weiner david b/in
E1            9     WEINER DAVID/IN
```

```
E2            2     WEINER DAVID A/IN
E3           48 --> WEINER DAVID B/IN
E4            2     WEINER DAVID M/IN
E5            4     WEINER DAVID PAUL/IN
E6            4     WEINER DAVID WILLIAM/IN
E7            1     WEINER DONALD D/IN
E8            7     WEINER DOUGLAS B/IN
E9            5     WEINER DOUGLAS S/IN
E10           1     WEINER EDWARD G/IN
E11           1     WEINER ETHAN S/IN
E12           1     WEINER EUGENE R/IN

=> s e1 or e3
              9 "WEINER DAVID"/IN
             48 "WEINER DAVID B"/IN
L4           57 "WEINER DAVID"/IN OR "WEINER DAVID B"/IN

=> s l4 and (Vpr or viral protein R)
           1263 VPR
          75902 VIRAL
         196519 PROTEIN
        1047992 R
             39 VIRAL PROTEIN R
                  (VIRAL(W)PROTEIN(W)R)
L5           33 L4 AND (VPR OR VIRAL PROTEIN R)

=> s l5 and (antibod?)
         118424 ANTIBOD?
L6           33 L5 AND (ANTIBOD?)

=> s l6 and (antibod? (8w) Vpr) or (antibod? (8w) viral protein R)
         118424 ANTIBOD?
           1263 VPR
             39 ANTIBOD? (8W) VPR
         118424 ANTIBOD?
          75902 VIRAL
         196519 PROTEIN
        1047992 R
             39 VIRAL PROTEIN R
                  (VIRAL(W)PROTEIN(W)R)
              0 ANTIBOD? (8W) VIRAL PROTEIN R
L7           19 L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PROTE

=> s l7 and (antibod?/clm or Vpr/clm or viral protein R/clm)
          36027 ANTIBOD?/CLM
            156 VPR/CLM
          11272 VIRAL/CLM
          57583 PROTEIN/CLM
         298387 R/CLM
              4 VIRAL PROTEIN R/CLM
```

((VIRAL(W)PROTEIN(W)R)/CLM)
L8 18 L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CLM)

=> d 18,cbib,ab,clm,10-18

L8 ANSWER 10 OF 18 USPATFULL on STN
2003:207377 Cellular receptor for HIV-1 **Vpr** essential for G2/M phase transition of the cell cycle.
Weiner, David B., Merion Station, PA, UNITED STATES
Ayyavoo, Velpandi, Monroeville, PA, UNITED STATES
Mahalingam, Sundarasamy, Birmingham, AL, UNITED STATES
Patel, Mamata, Philadelphia, PA, UNITED STATES
US 2003143735 A1 20030731
APPLICATION: US 2003-208338 A1 20030227 (10)
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides methods of identifying an anti-H compound by contacting human **Vpr** Interacting Protein (hVIP), or fragment thereof known to interact with **Vpr**, with **Vpr**, or a fra thereof known to interact with hVIP in the presence of a test co and comparing the affinity of the hVIP or fragment thereof to th or fragment thereof in the presence of the test compound with th affinity of the hVIP or fragment thereof to the **Vpr** or fragment thereof in the absence of the test compound. The present inventi provides transgenic non-human mammals comprising a recombinant expression vector that comprises a nucleic acid sequence that en hVIP.
CLM What is claimed is:
1. A substantially pure protein having the amino acid sequence o NO:2.

2. A recombinant expression vector comprising a nucleic acid seq that encodes a protein of claim 1.

3. The recombinant expression vector of claim 2 comprising SEQ I

4. A host cell comprising the recombinant expression vector of c

5. The host cell of claim 4 comprising a recombinant expression that comprises SEQ ID NO:1.

6. An isolated nucleic acid molecule consisting of SEQ ID NO:1, fragment thereof having at least 10 nucleotides.

7. The nucleic acid molecule of claim 6 consisting of SEQ ID NO:

8. The nucleic acid molecule of claim 6 consisting of a fragment ID NO:1 having at least 10 nucleotides.

9. The nucleic acid molecule of claim 6 consisting of a fragment

ID NO:1 having 12-150 nucleotides.

10. The nucleic acid molecule of claim 6 consisting of a fragmen ID NO:1 having 15-50 nucleotides.

11. The nucleic acid molecule of claim 6 consisting of a fragmen ID NO:1 having 18-30 nucleotides.

12. The nucleic acid molecule of claim 6 consisting of a fragmen ID NO:1 having 24 nucleotides.

13. An oligonucleotide molecule comprising a nucleotide sequence complementary to a nucleotide sequence of at least 10 nucleotide ID NO:1.

14. The oligonucleotide molecule of claim 13 consisting of a nuc sequence complementary to a nucleotide sequence of 10-150 nucle SEQ ID NO:1.

15. The oligonucleotide molecule of claim 13 consisting of a nuc sequence complementary to a nucleotide sequence of 18-28 nucleo SEQ ID NO:1.

16. An isolated **antibody** which binds to an epitope on a protein claim 1.

17. The **antibody** of claim 16 wherein said **antibody** is a monoclo **antibody.**

18. A pharmaceutical composition comprising a nucleic acid molec claim 6 and a pharmaceutically acceptable carrier.

19. A pharmaceutical composition comprising an oligonucleotide o 13 and a pharmaceutically acceptable carrier.

20. A method of making human **Vpr** Interacting Protein comprising: isolating nucleic acid molecule having SEQ ID NO:1; inserting s nucleic acid molecule into an expression vector; inserting said expression vector into host cell under conditions in which said is expressed; and isolating said human **Vpr** Interacting Protein

21. A method of inhibiting the expression of human **Vpr** Interact Protein In a cell comprising contacting said cell with an oligonucleotide complementary to SEQ ID NO:1, or a fragment ther whereby said oligonucleotide inhibits expression of said protein

22. The method of claim 21 wherein said cell is a cancer cell in animal.

23. The method of claim 21 wherein said oligonucleotide consists

nucleotide sequence complementary to a nucleotide sequence of 10 nucleotides of SEQ ID NO:1.

24. The method of claim 21 wherein said oligonucleotide consists nucleotide sequence complementary to a nucleotide sequence of 18 nucleotides of SEQ ID NO:1.

25. A method of treating an individual who has cancer comprising administering to said individual a therapeutically effective amo an oligonucleotide complementary to SEQ ID NO:1, or a fragment t whereby said oligonucleotide inhibits expression of said protein

26. The method of claim 25 wherein said oligonucleotide consists nucleotide sequence complementary to a nucleotide sequence of 10 nucleotides of SEQ ID NO:1.

27. The method of claim 25 wherein said oligonucleotide consists nucleotide sequence complementary to a nucleotide sequence of 18 nucleotides of SEQ ID NO:1.

28. A method of inhibiting human **Vpr** Interacting Protein activit cell comprising contacting said cell an hVIP-binding fragment t

29. The method of claim 28 wherein said cell is in an individual cancer and said method comprises the step of administering to sa individual a therapeutically effective amount of an hVIP-bindin fragment of **Vpr**.

L8 ANSWER 11 OF 18 USPATFULL on STN
2002:230844 Cellular receptor for HIV-1 **Vpr** essential for G2/M phase transition of the cell cycle.
Weiner, David B., Merion Station, PA, United States
Ayyavoo, Velpandi, Monroeville, PA, United States
Mahalingam, Sundarasamy, Birmingham, AL, United States
Patel, Mamata, Philadelphia, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 6448078 B1 20020910
WO 9919359 19990422
APPLICATION: US 2000-529245 20001017 (9)
WO 1998-US21432 19981009 20001017 PCT 371 date
DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to substantially pure Human **V** Interacting Protein (hVIP), and fragments thereof. Also disclose isolated nucleic acid molecules that encode hVIP, or a fragment nucleic acid probes and primers directed to nucleic acid molecul encode hVIP, or a fragment thereof; oligonucleotide molecules th consist of a nucleotide sequence complementary to a portion of t

nucleotide sequence that encodes hVIP; vectors comprising nuclei molecules encoding hVIP; recombinant expression vectors that com nucleic acid sequences that encode hVIP; host cells that compris recombinant expression vectors which include nucleic acid sequen encode hVIP; genetic therapy vectors comprising nucleic acid mol encoding hVIP; isolated **antibody** which binds to an epitope on hV pharmaceutical compositions comprising a pharmaceutically accept carrier and nucleic acid molecules complementary to a portion of methods of making hVIP; and methods of inhibiting expression of oligonucleotides complementary to a portion of the nucleotide se that encodes hVIP.

CLM What is claimed is:

1. An isolated **antibody** which binds to an epitope on a protein h the amino acid sequence of SEQ ID NO:2.

2. The **antibody** of claim 1 wherein said **antibody** is a monoclona **antibody.**

3. A method of inhibiting the expression of human **Vpr** Interacti Protein in a cell comprising contacting said cell with an oligonucleotide complementary to SEQ ID NO:1, or a fragment ther whereby said oligonucleotide inhibits expression of said protein

4. The method of claim 3 wherein said cell is a cancer cell in a animal.

5. The method of claim 3 wherein said oligonucleotide consists o nucleotide sequence complementary to a nucleotide sequence of 10 nucleotides of SEQ ID NO:1.

6. The method of claim 3 wherein said oligonucleotide consists o nucleotide sequence complementary to a nucleotide sequence of 18 nucleotides of SEQ ID NO:1.

7. A method of treating an individual who has cancer comprising administering to said individual a therapeutically effective amo an oligonucleotide complementary to SEQ ID NO:1, or a fragment t whereby said oligonucleotide inhibits expression of said protein

8. The method of claim 7 wherein said oligonucleotide consists o nucleotide sequence complementary to a nucleotide sequence of 10 nucleotides of SEQ ID NO:1.

9. The method of claim 7 wherein said oligonucleotide consists o nucleotide sequence complementary to a nucleotide sequence of 18 nucleotides of SEQ ID NO:1.

10. A method of inhibiting human **Vpr** Interacting Protein activit cell comprising contacting said cell an hVIP-binding fragment t

11. The method of claim 10 wherein said cell is in an individual cancer and said method comprises the step of administering to sa individual a therapeutically effective amount of an hVIP-bindin fragment of **Vpr**.

L8 ANSWER 12 OF 18 USPATFULL on STN
2001:4875 Cellular receptor for HIV-1 **Vpr** essential for G2/M phase.
Weiner, David B., Merion, PA, United States
Ayyavoo, Velpandi, Havertown, PA, United States
Mahalingam, Sundarasamy, Birmingham, AL, United States
Patel, Mamata, Philadelphia, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 6172201 B1 20010109
APPLICATION: US 1999-418175 19991013 (9)
PRIORITY: US 1997-55754P 19970814 (60)
DOCUMENT TYPE: Patent; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to substantially pure human **V** Interacting Protein (hVIP), and fragments thereof. Also disclose isolated nucleic acid molecules that encode hVIP, or a fragment nucleic acid probes and primers directed to nucleic acid molecul encode hVIP, or a fragment thereof; oligonucleotide molecules th consist of a nucleotide sequence complementary to a portion of t nucleotide sequence that encodes hVIP; vectors comprising nuclei molecules encoding hVIP; recombinant expression vectors that com nucleic acid sequences that encode hVIP; host cells that compris recombinant expression vectors which include nucleic acid sequen encode hVIP; genetic therapy vectors comprising nucleic acid mol encoding hVIP; isolated **antibody** which binds to an epitope on hV pharmaceutical compositions comprising a pharmaceutically accept carrier and nucleic acid molecules complementary to a portion of methods of making hVIP; and methods of inhibiting expression of oligonucleotides complementary to a portion of the nucleotide se that encodes hVIP.
CLM What is claimed is:
1. An isolated **antibody** which binds to an epitope on a protein h the amino acid sequence of SEQ ID NO:2.

2. The **antibody** of claim 1 wherein said **antibody** is a monoclona **antibody**.

3. The **antibody** of claim 1 wherein the **antibody** is an **antibody**

4. The **antibody** of claim 3 wherein the **antibody** fragment is a F fragment.

5. The **antibody** of claim 3 wherein the **antibody** fragment is a $F(ab)_2$ fragment.

6. A hybridoma cell line which produces **antibodies** according to

L8 ANSWER 13 OF 18 USPATFULL on STN
2000:57881 Cellular receptor for HIV-1 **VPR** essential for G2/M phase transition of the cell cycle.
Weiner, David B., Merion, PA, United States
Ayyavoo, Velpandi, Havertown, PA, United States
Mahalingam, Sundarasamy, Birmingham, AL, United States
Patel, Mamata, Philadelphia, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 6060587 20000509
APPLICATION: US 1997-949202 19971010 (8)
PRIORITY: US 1997-55754P 19970814 (60)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to substantially pure human **V** Interacting Protein (hVIP), and fragments thereof. Also disclose isolated nucleic acid molecules that encode hVIP, or a fragment nucleic acid probes and primers directed to nucleic acid molecul encode hVIP, or a fragment thereof; oligonucleotide molecules th consist of a nucleotide sequence complementary to a portion of t nucleotide sequence that encodes hVIP; vectors comprising nuclei molecules encoding hVIP; recombinant expression vectors that com nucleic acid sequences that encode hVIP; host cells that compris recombinant expression vectors which include nucleic acid sequen encode hVIP; genetic therapy vectors comprising nucleic acid mol encoding hVIP; isolated **antibody** which binds to an epitope on hV pharmaceutical compositions comprising a pharmaceutically accept carrier and nucleic acid molecules complementary to a portion of methods of making hVIP; and methods of inhibiting expression of oligonucleotides complementary to a portion of the nucleotide se that encodes hVIP.
CLM What is claimed is:
1. A substantially pure protein having the amino acid sequence o NO:2.

2. A recombinant expression vector comprising a nucleic acid seq that encodes the protein of claim 1.

3. A host cell comprising the recombinant expression vector of c

4. The host cell of claim 3 comprising a recombinant expression that comprises SEQ ID NO:1.

5. An isolated nucleic acid molecule consisting of SEQ ID NO:1, fragment thereof having at least 10 nucleotides.

6. The nucleic acid molecule of claim 5 consisting of a fragment ID NO:1 having at least 10 nucleotides.

7. The nucleic acid molecule of claim 5 consisting of a fragment ID NO:1 having 12-150 nucleotides.

8. The nucleic acid molecule of claim 5 consisting of a fragment ID NO:1 having 15-50 nucleotides.

9. The nucleic acid molecule of claim 5 consisting of a fragment ID NO:1 having 18-30 nucleotides.

10. The nucleic acid molecule of claim 5 consisting of a fragmen ID NO:1 having 24 nucleotides.

11. An oligonucleotide molecule comprising a nucleotide sequence complementary to a nucleotide sequence of at least 10 nucleotide ID NO:1.

12. The oligonucleotide molecule of claim 11 consisting of a nuc sequence complementary to a nucleotide sequence of 10-150 nucle SEQ ID NO:1.

13. The oligonucleotide molecule of claim 11 consisting of a nuc sequence complementary to a nucleotide sequence of 18-28 nucleo SEQ ID NO:1.

14. A pharmaceutical composition comprising: a) a nucleic acid m that comprises SEQ ID NO: 1 or a fragment from the coding region having at least 100 nucleotides; and b) a pharmaceutically accep carrier.

15. A pharmaceutical composition comprising: a) an oligonucleoti comprises a nucleotide sequence complementary to a nucleotide se of at least 10 nucleotides of the coding region of SEQ ID NO: 1; a pharmaceutically acceptable carrier.

16. A method of making human **Vpr** Interacting Protein comprising: isolating nucleic acid molecule having SEQ ID NO:1; inserting sa nucleic acid molecule into an expression vector; inserting said expression vector into host cell under conditions in which said is expressed; and isolating said human **Vpr** Interacting Protein.

17. A plasmid comprising a nucleic acid sequence that encodes a that has the amino acid sequence of SEQ ID NO:2.

18. The plasmid of claim 17 comprising SEQ ID NO:1.

19. An isolated nucleic acid molecule consisting of SEQ ID NO:1.

20. A recombinant expression vector comprising the nucleic acid of claim 19.

21. A host cell comprising the recombinant expression vector of 20.

22. An isolated nucleic acid molecule consisting of a fragment o coding region of SEQ ID NO: 1 having at least 10 contiguous nucl of SEQ ID NO: 1.

23. An isolated nucleic acid molecule consisting of a fragment o coding region of SEQ ID NO: 1 having 12-150 contiguous nucleoti SEQ ID NO: 1.

24. An isolated nucleic acid molecule consisting of a fragment o coding region of SEQ ID NO: 1 having 15-50 contiguous nucleotid ID NO: 1.

25. An isolated nucleic acid molecule consisting of a fragment o coding region of SEQ ID NO: 1 having 18-30 contiguous nucleotid ID NO: 1.

26. An isolated nucleic acid molecule consisting of a fragment o coding region of SEQ ID NO: 1 having 24 contiguous nucleotides o NO: 1.

27. An isolated nucleic acid molecule comprising a fragment of S NO: 1 having 100 contiguous nucleotides of SEQ ID NO: 1.

28. The isolated nucleic acid molecule of claim 27 comprising a of the coding region of SEQ ID NO: 1 having 100 contiguous nucle of SEQ ID NO: 1.

29. An isolated nucleic acid molecule comprising a fragment of S NO: 1 having 150 contiguous nucleotides of SEQ ID NO: 1.

30. The isolated nucleic acid molecule of claim 29 comprising a of the coding region of SEQ ID NO: 1 having 150 contiguous nucle of SEQ ID NO: 1.

31. The pharmaceutical composition of claim 14 wherein said nucl molecule comprises a fragment of SEQ ID NO:1 having at least 150 contiguous nucleotides of SEQ ID NO:1.

32. A pharmaceutical composition comprising: a) a nucleic acid m that consists of SEQ ID NO: 1 or a fragment of SEQ ID NO:1 havin least 10 contiguous nucleotides of SEQ ID NO:1; and b) a pharmaceutically acceptable carrier.

33. The pharmaceutical composition of claim 32 wherein said frag

SEQ ID NO:1 has 12-150 contiguous nucleotides of SEQ ID NO:1.

34. The pharmaceutical composition of claim 14 wherein said frag SEQ ID NO:1 has 15-50 contiguous nucleotides of SEQ ID NO:1.

35. The pharmaceutical composition of claim 14 wherein said frag SEQ ID NO:1 has 18-30 contiguous nucleotides of SEQ ID NO:1.

L8 ANSWER 14 OF 18 USPATFULL on STN
1999:24450 Identification of compounds that modulate HIV-1 **vpr** protein .

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US 5874225 19990223
APPLICATION: US 1993-19601 19930219 (8)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed toward methods of identifying compounds which inhibit the human immunodeficiency virus (HIV) **protein R** (**Vpr**) from stimulating the differentiation of undifferentiated cells. This invention takes advantage of the observation that cell lines from rhabdomyosarcomas, which are tu muscle origin, have been used as models of CD4-independent HIV infection. These cell lines can be induced to differentiate in v The **vpr** gene of HIV-1 is sufficient for the differentiation of t human rhabdomyosarcoma cell line TE671. Differentiated cells are characterized by great enlargement, altered morphology, lack of replication, and high level expression of the muscle-specific p myosin. Morphological differentiation and inhibition of prolifer other transformed cell lines following **vpr** expression was also observed. This invention also relates toward methods of identify compounds which inhibit HIV **Vpr** binding to Gag. These screening methods should facilitate the identification and development of antiviral agents.

CLM What is claimed is:

1. An in vitro method of identifying compounds that are capable inhibiting HIV-1 **Vpr**-mediated differentiation of undifferentiate cells comprising the following steps: (I) contacting undifferent cells with HIV-1 **Vpr** in the presence or absence of a test compou and, (ii) determining whether said cells cease proliferating and cellular differentiation markers in the presence or absence of a compound; wherein the presence of cellular proliferation and abs differentiation markers in the test sample is indicative of said compound being capable of inhibiting HIV-1 **Vpr**-mediated differentiation of undifferentiated cells.

2. The method of claim 1 wherein said undifferentiated cells are selected from the group consisting of: solid muscle tumor alveol rhabdomyosarcoma cell line RD, solid muscle tumor alveolar rhabdomyosarcoma cell line TE671, osteosarcoma cell line D17, osteosarcoma cell line MG63, osteosarcoma cell line HOS-TE86, m lineage cell line KG-1, myeloid lineage cell line THP-1, myeloi cell line PLB973, human glioblastoma cell line U-138MG, human glioblastoma/astrocytoma cell line U373MG, and human glioblastoma/astrocytoma cell line U87-MG.

3. An in vitro method of identifying compounds that are capable inhibiting HIV-1 **Vpr**-mediated suppression of cellular proliferat comprising the following steps: (I) contacting proliferating cel HIV-1 **Vpr** in the presence or absence of a test compound; and, (i determining whether said cells cease proliferating in the presen absence of said test compound; wherein the presence of cellular proliferation in the test sample is indicative of said compound capable of inhibiting HIV-1 **Vpr**-mediated suppression of cellular proliferation.

4. The method of claim 3 wherein said proliferating cells are se from the group consisting of: solid muscle tumor alveolar rhabdomyosarcoma cell line RD, solid muscle tumor alveolar rhabdomyosarcoma cell line TE671, osteosarcoma cell line D17, osteosarcoma cell line MG63, osteosarcoma cell line HOS-TE86, m lineage cell line KG-1, myeloid lineage cell line THP-1, myeloi cell line PLB973, human glioblastoma cell line U-138MG, human glioblastoma/astrocytoma cell line U373MG, and human glioblastoma/astrocytoma cell line U87-MG.

5. An in vitro method for the identification of compounds capabl inhibiting HIV-1 **Vpr** binding to HIV-1 Gag comprising the followi steps: (I) contacting, in the presence or absence of a test comp HIV-1 **Vpr** and Gag; and (ii) determining the level of binding bet HIV-1 **Vpr** and Gag, wherein a reduction in binding in the presenc the test compound is indicative of said compound being capable o inhibiting HIV-1 **Vpr** binding to Gag.

6. The method of claim 5 wherein said binding level is determine addition of a labeled **antibody**.

7. The method of claim 5 wherein said HIV-1 **Vpr** and Gag are pro in eukaryotic cells.

8. The method of claim 5 wherein said HIV-1 **Vpr** and Gag are pro in insect cells.

9. The method of claim 5 comprising the following steps: (I) con in the presence or absence of a test compound, eukaryotically ex HIV-1 **Vpr** and Gag, wherein said **Vpr** is attached to a solid suppo

(ii) washing the mixture of step (I) to remove unbound Gag prote
(iii) determining the level of binding between HIV-1 **Vpr** and Ga
through the addition of a Gag-specific labeled **antibody**, wherei
reduction in binding in the presence of the test compound is ind
of said compound being capable of inhibiting HIV-1 **Vpr** binding

10. The method of claim 9 wherein said HIV-1 **Vpr** and Gag are pr
in insect cells.

11. The method of claim 5 comprising the following steps: (I)
contacting, in the presence or absence of a test compound,
eukaryotically expressed HIV-1 **Vpr** and Gag, wherein said Gag is
attached to a solid support; (ii) washing the mixture of step (I
remove unbound **Vpr** protein; and, (iii) determining the level of
binding between HIV-1 **Vpr** and Gag through the addition of a
Vpr-specific labeled **antibody**, wherein a reduction in binding in
presence of the test compound is indicative of said compound bei
capable of inhibiting HIV-1 **Vpr** binding to Gag.

12. The method of claim 11 wherein said HIV-1 **Vpr** and Gag are p
in insect cells.

L8 ANSWER 15 OF 18 USPATFULL on STN
1998:82540 **VPR** receptor protein.
Weiner, David B., Merion, PA, United States
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The Trustees of the University of Pennsylvania, Philadelphia, PA, U
States (U.S. corporation)
US 5780238 19980714
WO 9516705 19950622
APPLICATION: US 1996-652572 19961024 (8)
WO 1994-US14532 19941215 19961024 PCT 371 date 19961024 PCT 102(e
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A human receptor protein which binds to the human immunodeficien
(HIV) **viral protein R** (**vpr**) is disclosed. Pharmaceutical
compositions that comprise the receptor protein, compositions us
produce the receptor protein and methods of making and using the
receptor protein are disclosed.
CLM What is claimed is:
1. Essentially pure **viral protein R** receptor protein characteriz
by a molecular weight of about 41 kD as determined using 12% SDS
an ability to bind to **viral protein R** and solubility in Triton,
a fragment of said **viral protein R** receptor protein which binds
viral protein R.

2. The protein of claim 1 wherein said protein is characterized
molecular weight of about 41 kD as determined using 12% SDS-PAG

ability to bind to **viral protein R** and solubility in Triton.

3. The protein of claim 1 wherein said protein is a fragment of protein which has a molecular weight of about 41 kD as determine 12% SDS-PAGE, said fragment having the ability to bind to **viral protein R** and solubility in Triton.

4. A method of identifying compounds which inhibit binding of **v protein R** to the viral protein receptor protein of claim 1 which comprises the steps of: a) contacting in the presence of a test compound, **viral protein R** protein or a fragment thereof and said **viral protein R** receptor protein or a fragment thereof, wherein the absence of said test compound said **viral protein R** protein said fragment thereof binds to said **viral protein R** receptor protein or said fragment thereof; b) determining the level of bi and c) comparing that level to the level of binding that occurs **viral protein R** protein and said **viral protein R** receptor protein are contacted in the absence of a test compound, wherein decrease in binding levels in the presence of said test compound indicates that the test compound is a compound which inhibits bi **viral protein R** protein to the **viral protein R** receptor protein of claim 1.

5. A kit for identifying compounds which inhibit binding of **vir protein R** protein to the **viral protein R** receptor protein of claim 1 which comprises a) a first container which contains **vir protein R** protein or a fragment thereof which binds **viral protein R** receptor protein or a fragment thereof, and b) a secon container which contains said **viral protein R** receptor protein a fragment thereof which binds **viral protein R** protein or a fragment thereof.

L8 ANSWER 16 OF 18 USPATFULL on STN
1998:82523 Methods and compositions for inhibiting HIV replication.
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Refaeli, Yosef, Boston, MA, United States
Levy, David N., Birmingham, AL, United States
Trustees of the University of Pennsylvania, Philadelphia, PA, Unite (U.S. corporation)
US 5780220 19980714
APPLICATION: US 1995-382873 19950203 (8)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for treating an individual exposed to or infected with disclosed which comprises administering to said individual a therapeutically effective amount of one or more compounds which or prevent replication of said HIV by interfering with the repli or other essential functions of **Vpr** expressed by said HIV, by interactively blocking the **Vpr** target in human cells, and thereb

preventing translocation of the **Vpr**/target complex from the cyto said human cells to the nuclei of said cells, where **Vpr** carries activities essential to replication of HIV. In preferred embodim the compound or compounds which interactively block the target a steroid hormone receptor antagonists, glucocorticoid receptor antagonists, or glucocorticoid receptor Type II antagonists, esp mifepristone (RU-486). Pharmaceutical compositions comprising th compounds, as well as a method for identifying them and a kit fo therein, are also disclosed.

CLM What is claimed is:

1. A method for treating a human individual exposed to or infect HIV comprising the steps of identifying said individual, and administering to said individual a therapeutically effective amo mifepristone to inhibit or prevent replication of said HIV by in cytosolic-nuclear translocation of a complex comprising HIV **Vpr** protein and Rip-1 protein in an HIV infected cell of said indivi

2. A method according to claim 1 further comprising coadminister said individual one or more therapeutic agents useful for treati infected individuals, selected from the group consisting of zido (AZT), acyclovir, ganciclovir, foscarnet, interferon alpha-2a, interferon alpha-2b.

3. A pharmaceutical composition for treatment of a human individ exposed to or infected with HIV comprising a therapeutically eff amount of mifepristone, one or more therapeutic agents useful fo treating HIV infected individuals, selected from the group consi zidovudine (AZT), acyclovir, ganciclovir, foscarnet, interferon alpha-2a, and interferon alpha-2b; and a pharmaceutically accept carrier therefor.

L8 ANSWER 17 OF 18 USPATFULL on STN

1998:64981 Methods for the identification of compounds capable of induc nuclear translocation of a receptor complex comprising the glucocot receptor type II and **viral protein R** interacting protein.

Weiner, David B., Merion, PA, United States
Refaeli, Yosef, Boston, MA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 5763190 19980609
APPLICATION: US 1994-309644 19940921 (8)
DOCUMENT TYPE: Utility; Granted.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Human immunodeficiency virus (HIV)-1, HIV-2, and simian immunod virus contain, in addition to the canonical gag/pol/env genes, additional small open reading frames encoding gene products, inc the 96-amino acid 15-kDa virion associated HIV-1 **Vpr** gene produ conservation of the **vpr** open reading frame in primate lentivirus suggests that **vpr** is critical to viral replication. A biological

active recombinant HIV-1 **Vpr** protein was employed as a ligand to identify its cellular targets. A novel 41-kDa cytosolic protein identified and termed the **viral protein R** interacting protein, Rip-1. Rip-1 displays a wide tissue distribution, including rele targets of HIV infection. **Vpr** protein induced nuclear translocat Rip-1, as did glucocorticoid receptor (GR)-II-stimulating stero **Vpr** and Rip-1 coimmunoprecipitated with the human GR as part of receptor complex. The present invention discloses methods for th identification of compounds capable of inducing GR-II/Rip-1 rec complex cytosolic to nuclear translocation.

CLM What is claimed is:

1. An in vitro method of identifying compounds that induce glucocorticoid receptor type II (GR-II) and **viral protein R** interacting protein (Rip-1) complex translocation comprising the following steps: a) preparing cells expressing Rip-1 and the GR wherein Rip-1 and GR-II are capable of forming a cytosolic Rip- receptor complex; b) contacting said cells with a test compound of inducing Rip-1/GR-II receptor complex cytoplasmic to nuclear translocation; c) detecting the level of Rip-1/GR-II receptor cytoplasmic to nuclear translocation in said cells in the presen the test compound; and, d) performing a control assay that detec level of Rip-I/GR-II receptor complex nuclear translocation in t absence of said test compound; wherein detection of a higher lev cytoplasmic to nuclear translocation of the Rip-1/GR-II recepto is indicative of said compound being capable of inducing Rip-1/ receptor complex translocation.

2. The method of claim 1 wherein Rip-1/GR-II receptor complex n translocation is detected through the subcellular fractionation cells into soluble and insoluble antigen-containing fractions, by the addition of Rip-1-specific **antibodies** to each fraction.

3. The method of claim 2 wherein said **antibodies** contain a radi label, fluorescent label, or enzymatic label.

4. The method of claim 2 wherein the soluble and insoluble antigen-containing fractions are attached to a solid support.

5. An in vitro method of inducing glucocorticoid receptor type I (GR-II) and **viral protein R** interacting protein (Rip-1) complex nuclear translocation in cells comprising the following steps: a preparing cells expressing Rip-1 and GR-II wherein said protein capable of forming a cytosolic Rip-1/GR-II receptor complex; an contacting said cells with the human immunodeficiency virus type (HIV-1) **Vpr** protein under conditions wherein said **Vpr** protein b to the cytosolic Rip-1/GR-II receptor complex thereby generating **Vpr**/Rip-1/GR-II complex that subsequently undergoes cytoplasmic nuclear translocation.

L8 ANSWER 18 OF 18 USPATFULL on STN
97:51852 Method and kit for identification of antiviral agents capable abrogating HIV **Vpr**-Rip-1 binding interactions.
Weiner, David B., Merion, PA, United States
Refaeli, Yosef, Boston, MA, United States
Levy, David N., Birmingham, AL, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 5639598 19970617
APPLICATION: US 1994-246177 19940519 (8)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Human and simian immunodeficiency viruses (HIV/SIVs) contain, in addition to the canonical gag/pol/env genes, additional small op reading frames (ORFs) encoding gene products, including the 96- acid 15-kDa virion-associated HIV-1 **Vpr** gene product. **Vpr** funct as a regulator of cellular processes related to HIV replication. biologically active recombinant HIV-1 **Vpr** protein was employed ligand to identify its cognate cellular target(s). A novel 41-k cytosolic **viral protein R** interacting protein, designated Rip-1 was identified using the recited assay. Rip-1 displays a wide-t distribution, including relevant targets of HIV infection. HIV- induced nuclear translocation of Rip-1. This invention provides biochemical reagents and methods that will facilitate the identi of antiviral agents.
CLM What is claimed is:
1. An in vitro method of identifying a compound which is capable preventing HIV-1 **Vpr** from forming a complex with Rip-1 comprisi following steps: a) contacting **Vpr** and Rip-1 in the presence of compound; b) determining the level of **Vpr**/Rip-1 complex formati comparing the level of **Vpr**/Rip-1 complex formation in step (b) t level of **Vpr**/Rip-1 binding that occurs in the absence of said te compound.

2. The method of claim 1 wherein said level of **Vpr**/Rip-1 comple formation is determined by immunoassay.

3. An in vitro method of identifying a compound which is capable preventing HIV-1 **Vpr** from forming a complex with Rip-1 comprisi following steps: a) immobilizing Rip-1 to a solid support; b) co said immobilized Rip-1 with **Vpr** and a test compound; c) measurin **Vpr** binding to immobilized Rip-1 through the administration of **Vpr**-specific **antibodies**; and, d) comparing the level of **Vpr**/Rip binding in step (c) to the level of **Vpr**/Rip-1 binding that occu the absence of said test compound.

4. An in vitro method of identifying a compound which is capable preventing HIV-1 **Vpr** from forming a complex with Rip-1 comprisi following steps: a) immobilizing **Vpr** to a solid support; b) cont said immobilized **Vpr** with Rip-1 and a test compound; c) measurin

Rip-1 binding to immobilized **Vpr** through the administration of Rip-1-specific **antibodies**; and, d) comparing the level of **Vpr**/R binding in step (c) to the level of **Vpr**/Rip-1 binding that occu the absence of said test compound.

5. An in vitro method for the identification of compounds capabl inhibiting HIV-1 **Vpr** from forming a complex with Rip-1, said me comprising the following steps: a) contacting a culture of HIV-1-infected cells with a test compound; b) determining the le **Vpr**/Rip-1 binding in said HIV-1infected cells; and, c) comparing level of **Vpr**/Rip-1 binding in step (b) to the level of **Vpr**/Rip- binding that occurs in HIV-1-infected cells cultured in the abse said test compound.

6. An in vitro method for the identification of compounds capabl inhibiting HIV-1 viral replication through the abrogation of HIV-1Vpr/Rip-1 complex cytoplasmic to nuclear translocation, sai comprising the following steps: a) contacting a culture of HIV-1-infected cells with a test compound; b) determining the le cytoplasmic to nuclear translocation of HIV-1 **Vpr**/Rip-1 complex and, c) comparing the level of cytoplasmic to nuclear translocat HIV-1 **Vpr**/Rip-1 complexes in the presence of said test compound level of cytoplasmic to nuclear translocation of HIV-1 **Vpr**/Rip- complexes that occurs in HIV-1-infected cells cultured in the ab said test compound.

7. A method according to claim 6 further comprising the followin d) determining the level of p24 antigen produced in HIV-1 infec cultured in the presence of said test compound; e) comparing the of p24 antigen produced in HIV-1-infected cells cultured in the of said test compound to the level of p24 antigen produced by HIV-1-infected cells cultured in the absence of said test compou wherein said comparison results in the identification of compoun capable of inhibiting HIV-1 viral replication.

8. An in vitro method for the identification of glucocorticoid r antagonists capable of inhibiting HIV-1 **Vpr** from forming a comp with Rip-1, said method comprising the following steps: a) conta culture of HIV-1-infected cells with a glucocorticoid receptor antagonist; b) determining the level of **Vpr**/Rip-1 binding in sa HIV-1 infected cells; and, c) comparing the level of **Vpr**/Rip-1 in step (b) to the level of **Vpr**/Rip-1 binding that occurs in HIV-1-infected cells cultured in the absence of said test compou

9. An in vitro method for the identification of glucocorticoid r antagonists capable of inhibiting HIV-1 viral replication throug abrogation of HIV-1 **Vpr**/Rip-1 complex cytoplasmic to nuclear translocation, said method comprising the following steps: a) co a culture of HIV-1-infected cells with a glucocorticoid receptor antagonist; b) determining the level of cytoplasmic to nuclear

translocation of HIV-1 **Vpr**/Rip-1 complexes; and, c) comparing th level of cytoplasmic to nuclear translocation of HIV-1 **Vpr**/Rip- complexes in the presence of said test compound to the level of cytoplasmic to nuclear translocation of HIV-1 **Vpr**/Rip1 complexe occurs in HIV-1-infected cells cultured in the absence of said t compound.

=> d 18,cbib,ab,clm,1-9

L8 ANSWER 1 OF 18 USPATFULL on STN
2005:63067 Targeted particles and methods of using the same.
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Muthumani, Karuppiah, Cherry Hill, NJ, UNITED STATES
Zhang, Donghui, Philadelphia, PA, UNITED STATES
Ramanthan, Mathura P., Ardmore, PA, UNITED STATES
US 2005054104 A1 20050310
APPLICATION: US 2004-478896 A1 20040830 (10)
WO 2002-US16681 20020528
PRIORITY: US 2001-293683P 20010525 (60)
DOCUMENT TYPE: Utility; APPLICATION.

AB Drug delivery compositions and methods of delivering compounds t disclosed. Vaccines and methods of immunizing individuals are di Compositions for drug delivery including gene therapy and method treating individuals using such compositions are disclosed.

CLM What is claimed is:

1. A method of introducing a compound into a cell that expresses molecules, said method comprising contacting the cell with a non-cellular particle that comprises the compound and a Flt-3 l

2. The method of claim 1 wherein the compound is a nucleic acid or protein.

3. The method of claim 1 wherein the compound is DNA.

4. The method of claim 1 wherein the compound is DNA that compri nucleotide sequences that encodes a protein operably linked to regulatory, elements functional in the cell.

5. The method of claim 1 wherein the compound is DNA that compri nucleotide sequences that encodes an immunogenic protein operabl to regulatory elements functional in the cell.

6. The method of claim 1 wherein the compound is DNA that compri nucleotide sequences that encodes an non-immunogenic protein op linked to regulatory elements functional in the cell.

7. The method of claim 1 wherein the compound is DNA that compri nucleotide sequences that encodes a protein operably linked to

regulatory elements derived from AAV, adenovirus or alphavirus.

8. The method of claim 1 wherein the compound is DNA that compri nucleotide sequences that encodes a protein operably linked to regulatory elements derived from AAV, adenovirus or alphavirus, further comprising a packaging signal to facilitate its incorpor into said particle.

9. The method of claim 1 wherein the compound is a viral protein

10. The method of claim 1 wherein the compound is a fusion prote comprising a an HIV **Vpr** portion which facilitate incorporation o fusion protein into said particle.

11. The method of claim 10 wherein fusion protein comprising a p cleavage site between said **Vpr** portion and a biologically active portion.

12. The method of claim 11 wherein the protease cleavage site is cleavage site recognized by HIV-1 protease.

13. The method of claim 10 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factors, growth factors, cytokines, chemokines, tr proteins and processing proteins.

14. The method of claim 13 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factor Tbet, transcription factor Tgata, cytokine chemokine Rantes, transport protein p70 and processing protein T

15. The method of claim 1 wherein the particle is a viral partic protein complex, a liposome or a cationic amphiphile/DNA complex

16. The method of claim 1 wherein the particle comprises a fusio protein comprising Flt-3 ligand or a FLT-3 binding fragment the the transmembrane and cytoplasmic regions of HIV-1 gp41.

17. A non-cellular particle that comprises a fusion protein comp Flt-3 ligand or a FLT-3 binding fragment thereof.

18. The particle of claim 17 further comprising a nucleic acid m and/or fusion protein.

19. The particle of claim 18 comprising DNA.

20. The particle of claim 19 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e functional in the cell.

21. The particle of claim 19 wherein the DNA comprises a nucleot sequences that encodes an immunogenic protein operably linked to regulatory elements functional in the cell.

22. The particle of claim 19 wherein the DNA comprises a nucleot sequences that encodes an non-immunogenic protein operably linke regulatory elements functional in the cell.

23. The particle of claim 19 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e derived from AAV, adenovirus or alphavirus.

24. The particle of claim 19 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e derived from AAV, adenovirus or alphavirus, said DNA further com a packaging signal to facilitate its incorporation into said par

25. The particle of claim 18 comprising a fusion protein.

26. The particle of claim 18 wherein the fusion protein comprise **Vpr** portion which facilitate incorporation of said fusion protei said particle.

27. The particle of claim 18 wherein the fusion protein comprise protease cleavage site between said **Vpr** portion and a biologica active portion.

28. The particle of claim 27 wherein the protease cleavage site cleavage site recognized by HIV-1 protease.

29. The particle of claim 18 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factors, growth factors, cytokines, chemokines, tr proteins and processing proteins.

30. The particle of claim 29 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factor Tbet, transcription factor Tgata, cytokine chemokine Rantes, transport protein p70 and processing protein T

31. The particle of claim 17 wherein the particle is a viral par protein complex, a liposome or a cationic amphiphile/DNA complex

32. The particle of claim 17 wherein the particle comprises a fu protein comprising Flt-3 ligand or a FLT-3 binding fragment the the transmembrane and cytoplasmic regions of HIV-1 gp41.

33. The method of immunizing an individual comprising administer particle of claim 30.

34. The method of treating an individual for autoimmune disease comprising administering a particle of claim 30.

35. A non-cellular particle that comprises a fusion protein comp **Vpr** portion and a biologically active non-**Vpr** portion.

36. The particle of claim 35 wherein the fusion protein comprise **Vpr** portion which facilitate incorporation of said fusion protei said particle.

37. The particle of claim 35 wherein the fusion protein comprise protease cleavage site between said **Vpr** portion and a biologica active portion.

38. The particle of claim 37 wherein the protease cleavage site cleavage site recognized by HIV-1 protease.

40. The particle of claim 35 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factors, growth factors, cytokines, chemokines, tr proteins and processing proteins.

41. The particle of claim 40 wherein fusion protein comprising a biologically active portion selected from the group consisting o transcription factor Tbet, transcription factor Tgata, cytokine chemokine Rantes, transport protein p70 and processing protein T

42. The particle of claim 35 further comprising a nucleic acid m and/or fission protein.

43. The particle of claim 42 comprising DNA.

44. The particle of claim 43 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e functional in the cell.

45. The particle of claim 43 wherein the DNA comprises a nucleot sequences that encodes an immunogenic protein operably linked to regulatory elements functional in the cell.

46. The particle of claim 43 wherein the DNA comprises a nucleot sequences that encodes an non-immunogenic protein operably linke regulatory elements functional in the cell.

47. The particle of claim 43 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e derived from AAV, adenovirus or alphavirus.

48. The particle of claim 43 wherein the DNA comprises a nucleot sequences that encodes a protein operably linked to regulatory e

derived from AAV, adenovirus or alphavirus, said DNA further com a packaging signal to facilitate its incorporation into said par

49. The particle of claim 35 comprising a costimulatory ligand o fusion protein comprising costimulatory ligand portion.

50. The particle of claim 35 wherein the particle is an HIV vira particle.

51. The particle of claim 35 wherein the particle is an HIV vira particle with a modified or heterologous Env protein.

52. The method of delivering a fusion protein to an individual administering a particle of claim 35.

53. A non-cellular particle that comprises a nucleotide sequence encodes a protein operably linked to regulatory elements derived AAV, adenovirus or alphavirus wherein when said particle is a vi derived particle, said regulatory elements are derived from a di virus than said particle.

54. The particle of claim 53 wherein said particle is derived pa from a lentivirus.

55. The particle of claim 53 wherein said nucleotide sequences f comprises a packaging signal which facilitates packaging of nucl molecules by said particle.

56. A method of delivering and expressing DNA to cells of an ind that comprises administering to said individual a particle of cl

57. A nucleotide sequences that encodes a protein operably linke regulatory elements derived from AAV, adenovirus or alphavirus a packaging signal which facilitates packaging of nucleic acid mol by viral particles different from the viral particles from which regulatory sequences have been derived.

L8 ANSWER 2 OF 18 USPATFULL on STN
2005:49410 Compositions for and methods of treating and preventing sirs
Weiner, David B., Merion Station, PA, UNITED STATES
Muthumani, Karuppiah, Cherry Hill, NJ, UNITED STATES
US 2005042202 A1 20050224
APPLICATION: US 2004-491800 A1 20041007 (10)
WO 2002-US32084 20021007
PRIORITY: US 2001-327270P 20011005 (60)
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to methods of inhibiting the immun response underlying sepsis, to methods of preventing sepsis, to

of treating sepsis and to pharmaceutical compositions useful in methods.

CLM What is claimed is:

1. A method of treating an individual who has been diagnosed as SIRS or sepsis comprising the step of administering to said indi therapeutically effective amount of an immuno-modulating pharma compositions comprising one or more of the components selected f group consisting of: i) **Vpr** protein; ii) a function fragment o **Vpr** protein; iii) a nucleic acid encoding **Vpr** protein operably linked to regulatory elements; and iv) a nucleic acid encoding functional fragment of **Vpr** protein operably linked to regulatory elements.

2. The method of claim 1 wherein the individual is administered nucleic acid encoding **Vpr** protein or functional fragment thereof operably linked to regulatory elements.

3. The method of claim 2, wherein the nucleic acid is administer dose of 1 to 500 micrograms nucleic acid.

4. The method of claim 2, wherein the nucleic acid is administer dose of 25 to 250 micrograms nucleic acid.

5. The method of claim 2, wherein the nucleic acid is administer dose of about 100 micrograms nucleic acid.

6. The method of claim 2, wherein the nucleic acid encoding **Vpr** protein or functional fragment thereof operably linked to regula elements is contained in a plasmid.

7. The method of claim 2, wherein the nucleic acid encoding **Vpr** protein or functional fragment thereof operably linked to regula elements is contained in a viral vector.

8. The method of claim 7, wherein the viral vector is selected f group consisting of a retroviral vector and an adenoviral vector

9. The method of claim 1, wherein the step of administering the immunomodulating pharmaceutical composition is repeated at least

10. The method of claim 9, wherein the step of administering the immunomodulating pharmaceutical composition is undertaken 1 to 6 day.

11. The method of claim 1, which additionally comprises at least step of administering to said individual a therapeutically effec amount of an anti-infective agent.

12. The method of claim 11, wherein the anti-infective agent is from the group consisting of: amikacin, tobramycin, netilmicin,

gentamicin, cephalosporin, ceftazidime, maxalactam, carbopenem, imipenem, aztreonam, ampicillin, penicillin, ureidopenicillin, augmentin, amphotericin, famvir and acyclovir.

13. The method of claim 11, wherein the step of administering th anti-infective agent is performed at the same time as the step o administering the immunomodulating pharmaceutical preparation.

14. The method of claim 1, which comprises the additional steps monitoring the concentration of pro-inflammatory cytokines and s marker proteins/conditions in the blood plasma of the individual determining the need for additional doses of the immuno-modulat pharmaceutical composition and administering additional doses of immuno-modulating pharmaceutical composition.

15. The method of claim 14, wherein the blood plasma level of TN monitored and the need for additional doses of the immuno-modul pharmaceutical composition is determined by a blood plasma level above about 25 pg/ml.

16. The method of claim 1, wherein the step of administering the immunomodulating pharmaceutical composition comprises continuous administration.

17. The method of claim 1 wherein the individual is administered protein of a functional fragment thereof.

18. The method of claim 17, wherein the **Vpr** protein or function fragment thereof is administered at 0.1 to 100 mg/kg body weight day.

19. The method of claim 17, wherein the **Vpr** protein or function fragment thereof is administered at 0.5 to 50 mg/kg body weight

20. The method of claim 17, wherein the **Vpr** protein or function fragment thereof is administered at 1.0 to 10 mg/kg body weight

21. A method of preventing sepsis in an individual who has been identified as being at an elevated risk of contracting sepsis co the step of administering to said individual a prophylactically effective amount of an immuno-modulating pharmaceutical composit comprising one or more of the components selected from the group consisting of: i) **Vpr** protein; ii) a function fragment of **Vpr** protein; iii) a nucleic acid encoding **Vpr** protein operably lin regulatory elements; and iv) a nucleic acid encoding a function fragment of **Vpr** protein operably linked to regulatory elements.

22-40. (Cancelled).

41. A pharmaceutical composition useful for preventing and treat

sepsis, comprising an anti-infective agent and one or more of th components selected from the group consisting of: i) **Vpr** prote ii) a function fragment of **Vpr** protein; iii) a nucleic acid enc **Vpr** protein operably linked to regulatory elements; and iv) a n acid encoding a functional fragment of **Vpr** protein operably lin regulatory elements.

42. The pharmaceutical composition of claim 41, wherein the anti-infective agent is selected from the group consisting of: a tobramycin, netilmicin, gentamicin, cephalosporin, ceftazidine, maxalactam, carbopenem, imipenem, aztreonam, ampicillin, penicil ureidopenicillin, augmentin, amphotericin, famvir and acyclovir.

43. The pharmaceutical composition of claim 40, which additional comprises at least one adjunctive agent in the treatment of SIRS

L8 ANSWER 3 OF 18 USPATFULL on STN
2005:30708 Hiv-1 **vpr** interactions with mitochondrial apoptosis inducing factor and methods of using the same.
Weiner, David B., Merion Station, PA, UNITED STATES
Muthumani, Karuppiah, Cherry Hill, NJ, UNITED STATES
US 2005026138 A1 20050203
APPLICATION: US 2004-478742 A1 20040802 (10)
WO 2002-US16731 20020528
PRIORITY: US 2001-293570P 20010525 (60)
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Assays to identify **Vpr**/AIF interaction and translocation inhibit are disclosed.
CLM What is claimed is:
1. A method of identifying compounds that inhibit HIV **Vpr** bindi AIF comprising a test assay that comprises the steps of: i) con a) HIV **Vpr** or a fragment of **Vpr** known to interact with AIF and b AIF or a fragment of AIF which interacts with **Vpr** in the presen c) a test compound and ii) comparing the level of HIV **Vpr** bind AIF to the level of HIV **Vpr** binding to AIF in the absence of sai compound.

2. The method of claim 1 wherein a) HIV **Vpr** and b) AIF or a fra of AIF which interacts with **Vpr** are contacted in the presence of test compound.

3. The method of claim 1 wherein a) HIV **Vpr** or a fragment of **Vp** known to interact with AIF and b) AIF are contacted in the prese c) a test compound.

4. The method of claim 1 wherein a) HIV **Vpr** and b) AIF are cont in the presence of c) a test compound.

5. The method of claim 1 further comprising a positive control a that comprises the steps of: i) contacting a) HIV **Vpr** or a fra of **Vpr** known to interact with AIF and b) AIF or a fragment of AI which interacts with **Vpr** in the presence of c) anti-**Vpr antibod** which competitively bind to **Vpr** with respect to AIF and/or anti **antibodies** which competitively bind to AIF with respect to **Vpr**.

6. The method of claim 1 wherein the concentration of test compo between 1 μM and 500 μM.

7. The method of claim 1 wherein the concentration of test compo between 10 μM to 100 μM.

8. The method of claim 1 wherein a series of test assays are per using a series of dilutions of test compounds.

9. A kit for performing the method of claim 1 comprising: a) a container comprising HIV **Vpr** or a fragment of **Vpr** known to inte with AIF; and, b) a second container comprising AIF or a fragme AIF which interacts with **Vpr** in the presence of c) a test compou and optionally, c) instructions for performing the test assay.

10. The kit of claim 9 further comprising a fourth container com anti-**Vpr antibodies** which competitively bind to **Vpr** with respec to AIF and/or anti-AIF **antibodies** which competitively bind to AI respect to **Vpr**.

11. A method of identifying compounds that inhibit HIV **Vpr**/AIF translocation comprising a test assay that comprises the steps o contacting, in the presence of a test compound, cells that compr **Vpr** or a fragment of **Vpr** known to interact with AIF and AIF or a fragment of AIF which interacts with **Vpr** in the presence and AI ii) comparing the level of **Vpr**/AIF in the nucleus to the level o **Vpr**/AIF in the nucleus in the absence of said test compound and/ comparing the level of **Vpr**/AIF in the cytoplasm to the level of **Vpr**/AIF in the cytoplasm in the absence of said test compound.

12. The method of claim 10 wherein the cells comprise a) HIV **Vp** b) AIF or a fragment of AIF which interacts with **Vpr**.

13. The method of claim 10 wherein the cells comprise a) HIV **Vp** fragment of **Vpr** known to interact with AIF and b) AIF.

14. The method of claim 10 wherein the cells comprise a) HIV **Vp** b) AIF.

15. The method of claim 1 wherein the concentration of test comp between 1 μM and 500 μM.

16. The method of claim 1 wherein the concentration of test comp between 10 μM to 100 μM.

17. The method of claim 1 wherein a series of test assays are pe using a series of dilutions of test compounds.

L8 ANSWER 4 OF 18 USPATFULL on STN
2005:471 **VPR** function and activity.
Weiner, David B., Merion, PA, United States
Levy, David Nathan, Philadelphia, PA, United States
Refaeli, Yosef, Philadelphia, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)The Wistar Institute, Philadelphia, PA, Un States (U.S. corporation)
US 6838236 B1 20050104
APPLICATION: US 1993-167608 19931215 (8)
DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Pharmaceutical compositions comprising the HIV protein **vpr** or n acid molecule encoding **vpr** are disclosed. Also disclosed are met of treating patients suffering from diseases characterized by hyperproliferating undifferentiated cells such as cancer by administering such compositions. Methods of identifying compound have anti-HIV activity are disclosed, in particular, methods of identifying compounds which modulate the activity of **vpr** and of identifying compounds which inhibit **vpr** binding to the HIV prot

CLM What is claimed is:
1. Isolated human immunodeficiency virus **Vpr** protein produced i eukaryotic cells.

2. A method of identifying whether or not an individual has been infected with human immunodeficiency virus comprising the steps contacting a test sample from said individual with isolated huma immunodeficiency virus **Vpr** protein produced in eukaryotic cells, b) detecting the presence of anti-**Vpr antibodies** bound to said **Vpr**, wherein the presence of anti-**Vpr antibodies** indicates that said individual has been infected with human immunodeficiency vi the absence of said anti-**Vpr antibodies** indicates that said individual has not been infected with human immunodeficiency vir

3. A kit for identifying whether or not an individual has been i with human immunodeficiency virus comprising a) a first containe comprising isolated human immunodeficiency virus **Vpr** protein pr in eukaryotic cells, and b) a second container which contains **antibodies** which specifically bind to **Vpr** protein produced in eukaryotic cells.

4. The isolated protein of claim 1 wherein said protein is immob to a solid phase support.

5. The isolated protein of claim 4, wherein said solid phase sup selected from the group consisting of: nitrocellulose paper, gla polystyrene, polypropylene, polyethylene, dextran, nylon, amylas natural and modified cellulose, polyacrylamide, agarose, and mag

6. The isolated protein of claim 4, wherein said solid phase sup nitrocellulose paper or polystyrene.

7. The method of claim 2 wherein said test sample is selected fr group consisting of: blood, cerebral spinal fluid, amniotic flui lymph, semen or vaginal fluid.

8. The method of claim 2 wherein said test sample is blood.

9. The method of claim 2 wherein said **Vpr** protein is immobilize solid phase support.

10. The method of claim 9 wherein said solid phase support is se from the group consisting of: nitrocellulose paper, glass, polys polypropylene, polyethylene, dextran, nylon, amylases, natural a modified cellulose, polyacrylamide, agarose, and magnetite.

11. The method of claim 9 wherein said solid phase support is nitrocellulose paper or polystyrene.

12. The method of claim 2 comprising the steps of: a) contacting test sample with **Vpr** protein that is immobilized to a solid phas support, and b) the presence of anti-**Vpr antibodies** bound to sa **Vpr** is detected by i) adding anti-human **antibody antibodies** to said test sample and **Vpr** protein that is immobilized to a solid support; and ii) detecting said anti-human **antibody antibodies** to anti-**Vpr antibodies** that are bound to **Vpr** protein that is immobilized said solid phase support.

13. The method of claim 12 wherein said anti-human **antibodies** a labelled.

14. The method of claim 2 further comprising the step of perform positive control assay, said positive control assay comprising t of: a) contacting a positive control sample with **Vpr** protein pr in eukaryotic cells, wherein said positive control sample compri positive control **antibodies** which are **antibodies** that bind to **V** produced in eukaryotic cells; and b) detecting the presence of s positive control **antibodies** bound to said **Vpr** produced in eukar cells.

15. The method of claim 2 comprising the steps of: a) contacting test sample with **Vpr** protein that is immobilized to a solid phas support, and b) detecting the presence of anti-**Vpr antibodies** b

to said **Vpr** by: i) washing said solid phase support; ii) adding said test sample and **Vpr** protein that is immobilized to said sol phase support, labelled **antibodies** that bind to human **antibody** region; iii) washing said solid phase support; iv) detecting sai anti-human **antibodies** bound to said solid phase support.

16. The method of claim 15 wherein said anti-human **antibodies** a horse radish peroxidase labelled goat anti-human **antibodies.**

17. The kit of claim 3 wherein said **Vpr** protein is immobilized solid phase support.

18. The kit of claim 17 wherein said solid phase support is sele from the group consisting of: nitrocellulose paper, glass, polys polypropylene, polyethylene, dextran, nylon, amylases, natural a modified cellulose, polyacrylamide, agarose, and magnetite.

19. The kit of claim 17 wherein said solid phase support is nitrocellulose paper or polystyrene.

20. The kit of claim 3 further comprising a positive control whi contains **antibodies** which specifically bind **Vpr** produced in eukaryotic cells.

21. An in vitro method of identifying individuals who have been to the human immunodeficiency virus comprising the following ste preparing a test sample from said individual; (ii) admixing the sample of step (i) with isolated eukaryotically expressed human immunodeficiency virus **Vpr;** (iii) detecting the presence of anti **antibodies** bound to said **Vpr;** wherein the presence of said anti-**Vpr antibodies** indicates that said individual has been expo to the human immunodeficiency virus.

22. The method of claim 21 wherein said test sample is selected group consisting of: blood, cerebral spinal fluid, amniotic flui lymph, semen or vaginal fluid.

23. The method of claim 21 wherein said test sample is blood.

24. The method of claim 21 wherein said **Vpr** protein is immobili a solid phase support.

25. The method of claim 24 wherein said solid phase support is s from the group consisting of: nitrocellulose paper, glass, polys polypropylene, polyethylene, dextran, nylon, amylases, natural a modified cellulose, polyacrylamide, agarose, and magnetite.

26. The method of claim 24 wherein said solid phase support is nitrocellulose paper or polystyrene.

27. An in vitro method of identifying individuals who have been to the human immunodeficiency virus comprising the following ste preparing a test sample from said individual; (ii) admixing the sample of step (i) with isolated eukaryotically expressed human immunodeficiency virus **Vpr** immobilized to a solid phase support; allowing **antibodies**, if present in the test sample, to bind to a form an immune complex with said immobilized **Vpr**; (iv) detectin presence of anti-**Vpr antibodies** bound to said **Vpr** by admixing a labeled anti-human secondary **antibody** with the immune complexes step (iii); wherein the presence of said anti-**Vpr antibodies** indicates that said individual has been exposed to the human immunodeficiency virus.

28. The method of claim 27 wherein said anti-human secondary **an** is a goat anti-human **antibody** labeled with horseradish peroxidas

29. A diagnostic kit for identifying individuals who have been e to the human immunodeficiency virus comprising the following com (i) a container comprising isolated eukaryotically expressed hum immunodeficiency virus **Vpr** (ii) a container comprising a labeled anti-human secondary **antibody**; (iii) a container comprising **Vpr**-specific **antibodies**; (iv) a container comprising **antibodies** that do not bind to **Vpr**; and, (v) a container comprising detecti reagents.

30. The kit of claim 29 wherein said **Vpr** is immobilized to a solid-phase support.

31. The kit of claim 30 wherein said solid phase support is sele from the group consisting of: nitrocellulose paper, glass, polys polypropylene, polyethylene, dextran, nylon, amylases, natural a modified cellulose, polyacrylamide, agarose, and magnetite.

32. The kit of claim 30 wherein said solid phase support is nitrocellulose paper or polystyrene.

L8 ANSWER 5 OF 18 USPATFULL on STN
2004:328002 Compositions and methods for the abrogation of cellular proliferation utilizing the human immunodeficiency virus **Vpr** prote
Weiner, David B., Merion Station, PA, UNITED STATES
Levy, David N., Birmingham, AL, UNITED STATES
Refaeli, Yosef, Denver, CO, UNITED STATES
US 2004259827 A1 20041223
APPLICATION: US 2003-734024 A1 20031211 (10)
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Method of inhibiting proliferation of cells using **vpr** protein o nucleotide sequences that encode **vpr** are disclosed. Method of preventing lymphocyte activation using **vpr** protein or nucleotid

sequences that encode **vpr** are disclosed. Methods of treating an individual diagnosed with or suspected of suffering from autoimm disease, diseases characterized by proliferating cells and graft host disease by administering **vpr** protein or a functional fragme thereof, or a nucleic acid molecule that comprises a nucleotide that encodes **vpr** protein or a functional fragment thereof are disclosed. Conjugated compositions for delivery of active agents nucleus of cells are disclosed.

CLM What is claimed is:

1. A method of inhibiting proliferation of cells which comprises step of: contacting cells with an amount of **vpr** protein or a functional fragment thereof effective to inhibit cell proliferat introducing into cells a nucleic acid molecule that comprises a nucleotide sequence that encodes **vpr** protein or a functional fra thereof whereby said nucleotide sequence is expressed by said ce

2. The method of claim 1 wherein said cells are differentiated.

3. The method of claim 1 wherein said cells are undifferentiated

4. A method of preventing lymphocyte activation which comprises of: contacting a lymphocyte cell with an amount of **vpr** protein functional fragment thereof effective to prevent activation; or introducing into cells a nucleic acid molecule that comprises a nucleotide sequence that encodes **vpr** protein or a functional fra thereof whereby said nucleotide sequence is expressed by said ce

5. The method of claim 1 wherein said cells are T cells, B cells monocytes.

6. A method of treating an individual diagnosed with or suspecte suffering from diseases characterized by hyperproliferating cell comprises the step of administering to said individual an effect amount of a pharmaceutical composition comprising a) **vpr** prote functional fragment thereof, or a nucleic acid molecule that com nucleotide sequence that encodes **vpr** protein or a functional fra thereof; and b) pharmaceutically acceptable carrier.

7. A method of treating an individual diagnosed with or suspecte suffering from an autoimmune disease which comprises the step of administering to said individual an effective amount of a pharma composition comprising a) **vpr** protein or a functional fragment thereof, or a nucleic acid molecule that comprises a nucleotide that encodes **vpr** protein or a functional fragment thereof; and pharmaceutically acceptable carrier.

8. The method of claim 7 wherein said autoimmune disease is sele from the group consisting of: rheumatoid arthritis, multiple scl Sjogren's syndrome, sarcoidosis, insulin dependent diabetes mell autoimmune thyroiditis, reactive arthritis, ankylosing spondylit

scleroderma, polymyositis, dermatomyositis, psoriasis, vasculiti Wegener's granulomatosis, Crohn's disease, ulcerative colitis, L Grave's disease, myasthenia gravis, autoimmune hemolytic anemia, autoimmune thrombocytopenia, asthma, cryoglobulinemia, primary b sclerosis and pernicious anemia.

9. A method of treating an individual who has a transplanted org tissue which comprises the step of administering to said individ effective amount of a pharmaceutical composition comprising a) protein or a functional fragment thereof, or a nucleic acid mole that comprises a nucleotide sequence that encodes **vpr** protein o functional fragment thereof; and b) pharmaceutically acceptable carrier.

10. A conjugated composition comprising: a first moiety which c isolated **vpr** or a rip-1-binding fragment thereof; and a second which comprises an active agent selected from the group consisti drug, a toxin, a nucleic acid molecule and a radioisotope; wher first moiety is covalently linked to said second moiety.

11. The conjugated composition of claim 10 wherein said first mo comprises **vpr**.

12. The conjugated composition of claim 10 wherein said second m comprises a nucleic acid molecule.

13. The conjugated composition of claim 10 wherein said second m comprises a DNA molecule.

L8 ANSWER 6 OF 18 USPATFULL on STN
2004:288529 Functional fragments of HIV-1 **Vpr** protein and methods of us the same.
Mahalingam, Sundarasamy, Birmingham, AL, United States
Ayyavoo, Velpandi, Monroeville, PA, United States
Patel, Mamata, Hoboken, NJ, United States
Kieber-Emmons, Thomas, Newtown Square, PA, United States
Weiner, David B., Merion Station, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 6818627 B1 20041116
WO 9909412 19990225
APPLICATION: US 2000-485421 20001005 (9)
WO 1998-US16890 19980814
PRIORITY: US 1997-55754P 19970814 (60)
DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Conjugated compositions comprising a fragment of HIV-1 **Vpr** or a non-HIV-1 **Vpr** protein conjugated to a therapeutic compound and m of using the same to deliver therapeutic compounds to a cell's n

or for the preparation of drug delivery particles are disclosed. Functional fragments of HIV-1 **Vpr** and functional non-HIV-1 **Vpr** proteins, and pharmaceutical compositions comprising the same ar disclosed. Methods of inhibiting cell proliferation and methods treating an individual who has a hyperproliferative disease are disclosed. Methods of identifying compounds that inhibit **Vpr** pr binding to the p6 domain of p55 or to p6 protein and kits for pe such methods are disclosed.

CLM What is claimed is:

1. A conjugated composition comprising at least one a nuclear localization sequence fragment of HIV-1 **Vpr** protein (SEQ No: 1) consisting of amino acid sequence 17-36 and/or amino acid sequen of said HIV-1 **Vpr** protein conjugated to a therapeutic compound, wherein said therapeutic compound is a nucleic acid molecule.

2. The conjugated composition of claim 1, wherein said nucleic a molecule is a DNA vaccine plasmid conjugated to said fragment of **Vpr** protein by tonic bonds.

3. The conjugated composition of claim 1, wherein said nucleic a molecule is an antisense molecule.

4. The conjugated composition of claim 1, wherein said nucleic a molecule is an antisense oligonucleotide.

5. A method of delivering a therapeutic compound to the nucleus cell comprising the step of: contacting said cell with a conjuga compound, wherein said conjugated compound comprises said therap compound conjugated to at least one nuclear localization sequenc fragment of HIV-1 **Vpr** protein (SEQ No: 1) consisting of amino ac sequence 17-36 and/or amino acid sequence 59-84 of said HIV-1 **V** protein; wherein said therapeutic compound is a nucleic acid mol and wherein said conjugated compound is taken up by said cell an localized to the nucleus of said cell.

6. The method of claim 5, wherein said nucleic acid molecule is molecule.

7. The method of claim 5, wherein said nucleic acid molecule is plasmid DNA molecule.

8. The method of claim 5, wherein said nucleic acid molecule is antisense molecule.

9. The method of claim 5, wherein said nucleic acid molecule is antisense oligonucleotide.

10. A conjugated composition comprising a nuclear localization s fragment of HIV-1 **Vpr** protein (SEQ No: 1) comprising amino acid sequence 17-36 and/or amino acid sequence 59-84 of said HIV-1 **V**

protein conjugated to a therapeutic compound, wherein said fragm HIV-1 **Vpr** protein is less than 50 amino acids.

11. The conjugated composition of claim 10, wherein said fragmen HIV-1 **Vpr** protein further comprises a polycationic amino acid se

12. The conjugated composition of claim 10, wherein said therape compound is a DNA vaccine plasmid conjugated to said fragment of **Vpr** protein ionic bonds.

13. The conjugated composition of claim 10, wherein said fragmen HIV-1 **Vpr** protein further comprises a polycationic amino acid se and said therapeutic compound is a nucleic acid molecule conjuga said polycationic amino acid sequence by ionic bonds.

14. The conjugated composition of claim 10, wherein said therape compound is an antisense molecule.

15. The conjugated composition of claim 10, wherein said therape compound is an antisense oligonucleotide.

16. A method of delivering a therapeutic compound to the nucleus cell comprising the step of: contacting said cell with a conjuga compound, wherein said conjugated compound comprises said therap compound conjugated to a nuclear localization sequence fragment **Vpr** protein (SEQ No: 1) comprising amino acid sequence 17-36 an amino acid sequence 59-84 of said HIV-1 **Vpr** protein; wherein sa fragment of HIV-1 **Vpr** protein is less than 50 amino acids, and w said conjugated compound is taken up by said cell and localized nucleus of said cell.

17. The method of claim 16, wherein said therapeutic compound is molecule.

18. The method of claim 16, wherein said therapeutic compound is plasmid DNA molecule.

19. The method of claim 16, wherein said therapeutic compound is antisense molecule.

20. The method of claim 16, wherein said therapeutic compound is antisense oligonucleotide.

L8 ANSWER 7 OF 18 USPATFULL on STN
2004:38115 Composition and methods of using hiv **vpr**.
Muthumani, Karrupiah, Upper Darby, PA, UNITED STATES
Weiner, David B., Merion Station, PA, UNITED STATES
US 2004028651 A1 20040212
APPLICATION: US 2002-311260 A1 20021213 (10)

WO 2001-US10028 20010329
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of delivering a desired polypeptide to an individual are disclosed. The methods comprise administering to the individual immunogenic vector comprising a nucleic acid encoding the desire polypeptide operably linked to regulatory elements in combinatio one or more of **Vpr** protein, a functional fragment of **Vpr** protei nucleic acid encoding **Vpr** protein operably linked to regulatory elements, or a nucleic acid encoding fragment of **Vpr** protein op linked to regulatory elements. Methods of inhibiting an undesira immune response in an individual are disclosed. Methods for inhi the cellular proliferation of a tumor cell in an individual are disclosed.

CLM What is claimed is:

1. A method of delivering a desired polypeptide to an individual comprising administer to said individual: a) an immunogenic vec comprising a nucleic acid encoding the desired polypeptide opera linked to regulatory elements; and b) one or more of the compon selected from the group consisting of: i) **Vpr** protein; ii) a functional fragment of **Vpr** protein; iii) a nucleic acid encodin **Vpr** protein operably linked to regulatory elements; and iv) a n acid encoding a functional fragment of **Vpr** protein operably lin regulatory elements.

2. The method of claim 1 wherein the individual is administered nucleic acid encoding **Vpr** protein operably linked to regulatory elements.

3. The method of claim 2 wherein the nucleic acid encoding **Vpr** also encodes the desired polypeptide.

4. The method of claim 2 wherein a nucleic acid encoding **Vpr** pr and a nucleic acid encoding the desired polypeptide are administ the individual in the same formulation.

5. The method of claim 4 wherein a nucleic acid encoding **Vpr** pr and a nucleic acid encoding the desired polypeptide are administ the individual in separate formulations.

6. The method of claim 1 wherein the individual is administered protein.

7. The method of claim 6 wherein the **Vpr** protein and the nuclei encoding the desired polypeptide are administered in the same formulation.

8. The method of claim 6 wherein the **Vpr** protein and the nuclei encoding the desired polypeptide are administered in separate formulations.

9. The method of claim 1 wherein the desired polypeptide is a hu polypeptide.

10. The method of claim 1 wherein the immunogenic vector is a vi vector.

11. The method of claim 10 wherein the viral vector is an adenov vector.

12. A composition comprising an immunogenic vector comprising a acid encoding the desired polypeptide operably linked to regulat elements; and one or more of the components selected from the gr consisting of: i) **Vpr** protein; ii) a functional fragment of **V** protein; iii) a nucleic acid encoding **Vpr** protein operably lin regulatory elements; and iv) a nucleic acid encoding a function fragment of **Vpr** protein operably linked to regulatory elements.

13. The composition of claim 12 comprising a nucleic acid encodi protein operably linked to regulatory elements.

14. The composition of claim 13 comprising a nucleic acid that e **Vpr** protein and the desired polypeptide.

15. The composition of claim 13 comprising **Vpr** protein.

16. The composition of claim 15 wherein the **Vpr** protein is incorporated within the immunogenic vector.

17. The composition of claim 15 wherein the immunogenic vector i viral vector.

18. The composition of claim 17 wherein the viral vector is an adenoviral vector.

19. A method for inhibiting an undesirable immune response in an individual comprising administering to said individual in an amo sufficient to inhibit an undesirable immune response one or more components selected from the group consisting of: i) **Vpr** prote ii) a functional fragment of **Vpr** protein; iii) a nucleic acid encoding **Vpr** protein operably linked to regulatory elements; and a nucleic acid encoding a functional fragment of **Vpr** protein op linked to regulatory elements.

20. The method of claim 19 wherein the individual is administere nucleic acid encoding **Vpr** protein operably linked to regulatory elements.

21. The method of claim 19 wherein the individual is administere protein.

22. The method of claim 19 wherein said individual has an autoimmune/inflammatory disease or condition.

22. The method of claim 19 wherein said individual is undergoing undergone a cell, tissue or organ transplant procedure.

23. The method of claim 19 wherein the undesirable immune respon septic shock.

24. The method of claim 23 wherein the component is a prior to t undesirable immune response and the treatment is prophylactic.

25. The method of claim 23 wherein the component is administered the undesirable immune response and the treatment is therapeutic

26. The method of claim 19 wherein the undesirable immune respon toxic shock.

27. The method of claim 26 wherein the component is administered to the desirable immune response and the treatment is prophylact

28. The method of claim 26 wherein the component is administered the undesirable immune response and the treatment is therapeutic

29. A method for inhibiting cellular proliferation in a tumor ce individual comprising administer to said individual, in an amoun sufficient to inhibit cellular proliferation, a recombinant aden comprising a nucleic acid encoding **Vpr** protein operably linked t regulatory elements or a nucleic acid encoding an anti-tumor fr **Vpr** protein operably linked to regulatory elements.

30. The method of claim 29 wherein the recombinant adenovirus co a nucleic acid encoding **Vpr** protein operably linked to regulator elements.

31. The method of claim 29 herein the recombinant adenovirus com an anti-tumor fragment of **Vpr** protein operably linked to regulat elements.

32. The method of claim 29 wherein the recombinant adenovirus is administered by intratumoral injection.

L8 ANSWER 8 OF 18 USPATFULL on STN
2003:332329 Compositions and methods for the abrogation of cellular proliferation utilizing the human immunodeficiency virus **VPR** prote
Weiner, David B., Merion, PA, United States
Levy, David N., Birmingham, AL, United States
Refaeli, Yosef, Boston, MA, United States

Williams, William V., Havertown, PA, United States
Ayyavoo, Velpandi, Havertown, PA, United States
The Trustees of the University of Pennsylvania, Philadelphia, PA, U States (U.S. corporation)
US 6667157 B1 20031223
WO 9608970 19960328
APPLICATION: US 1997-809186 19970624 (8)
WO 1995-US12344 19950921
DOCUMENT TYPE: Utility; GRANTED.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Method of inhibiting proliferation of cells using **vpr** protein o nucleotide sequences that encode **vpr** are disclosed. Method of preventing lymphocyte activation using **vpr** protein or nucleotid sequences that encode **vpr** are disclosed. Methods of treating an individual diagnosed with or suspected of suffering from autoimm disease, diseases characterized by proliferating cells and graft host disease by administering **vpr** protein or a functional fragme thereof, or a nucleic acid molecule that comprises a nucleotide that encodes **vpr** protein or a functional fragment thereof are disclosed. Conjugated compositions for delivery of active agents nucleus of cells are disclosed.

CLM What is claimed is:

1. A method of inhibiting proliferation of cells which comprises steps a) obtaining isolated **Vpr** protein or a function fragment thereof; and b) contacting cells with an amount of said **Vpr** pro functional fragment thereof effective to inhibit cell proliferat wherein said cells are T cells and/or B cells and/or monocytes.

2. The method of claim 1 which comprises the step of: contacting with **Vpr** protein.

3. The method of claim 2 wherein said T cells and/or B cells and monocytes are removed from an individual prior to being contacte **Vpr** protein.

4. The method of claim 1 which comprises the step of: contacting with a functional fragment of **Vpr** protein.

5. The method of claim 4 wherein said T cells and/or B cells-an monocytes are removed from an individual prior to being contacte said functional fragment of **Vpr** protein.

6. The method of claim 3 wherein said cells are T cells.

7. The method of claim 4 wherein said cells are monocytes.

8. The method of claim 3 wherein said cells are monocytes.

9. The method of claim 4 wherein said cells are T cells.

L8 ANSWER 9 OF 18 USPATFULL on STN
2003:294238 **VPR** function and activity.
Weiner, David B., Merion, PA, UNITED STATES
Levy, David Nathan, Philadelphia, PA, UNITED STATES
Refaeli, Yosef, Philadelphia, PA, UNITED STATES
US 2003207252 A1 20031106
APPLICATION: US 2001-935100 A1 20010822 (9)
DOCUMENT TYPE: Utility; APPLICATION.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Pharmaceutical compositions comprising the HIV protein **vpr** or n acid molecule encoding **vpr** are disclosed. Also disclosed are met of treating patients suffering from diseases characterized by hyperproliferating undifferentiated cells such as cancer by administering such compositions. Methods of identifying compound have anti-HIV activity are disclosed, in particular, methods of identifying compounds which modulate the activity of **vpr** and of identifying compounds which inhibit **vpr** binding to the HIV prot

CLM What is claimed is:

1. A method of inducing undifferentiated cells to differentiate comprises the step of: contacting undifferentiated cells with a of **vpr** protein or a functional fragment thereof effective to sti differentiation; or introducing into undifferentiated cells a n acid molecule that comprises a nucleotide sequence that encodes protein or a functional fragment thereof whereby said nucleotide sequence is expressed by said cells.

2. A pharmaceutical composition comprising a) **vpr** protein or a functional fragment thereof, or a nucleic acid molecule that com nucleotide sequence that encodes **vpr** protein or a functional fra thereof; and b) pharmaceutically acceptable carrier.

3. A method of treating an individual diagnosed with or suspecte suffering from diseases characterized by hyperproliferating undifferentiated cells which comprises the step of administering individual an effective amount of a pharmaceutical composition a to claim 2.

4. A pharmaceutical composition that comprises redifferentiated cells induced to redifferentiate by contacting tumor cells with protein or introducing into tumor cells a nucleic acid molecule comprises a nucleotide sequence that encodes **vpr** protein.

5. A method of treating an individual suffering from a disease associated with the loss or disfunction of cells which comprises step of implanting into said individual a pharmaceutical composi according to claim 4.

6. A method of identifying compounds which inhibit **vpr** from stimulating differentiation of undifferentiated cells which comp

the steps of a) contacting, in the presence of a test compound, undifferentiated cells with an amount of **vpr** protein sufficient stimulate differentiation and b) comparing the differentiation occurs with the differentiation that occurs when said undifferen cells are contacted with **vpr** protein in the absence of said test compound.

7. A kit for performing the method of identifying compounds whic inhibit **vpr** from stimulating differentiation of undifferentiated of claim 6, said kit comprising a) a first container comprising undifferentiated cells, and b) a second container comprising **v** protein.

8. A method of identifying compounds that inhibit **vpr** protein b to p55, p24, p15, p7 or p6 protein which comprises the steps of: contacting **vpr** protein or a fragment thereof and p55, p24, p15, p6 protein or a fragment thereof in the presence of a test compo determining the level of binding between **vpr** protein and p55, p p15, p7 or p6 protein and c) comparing that level to the level binding that occurs when **vpr** protein or a fragment thereof and p p24, p15, p7 or p6 protein or a fragment thereof are contacted i absence of a test compound.

9. A kit for performing the method of identifying compounds whic inhibit **vpr** protein binding to p55, p24, p15, p7 or p6 protein o claim 8, said kit comprising: a) a first container comprising protein or a fragment thereof and b) a second container compris p24, p15, p7 or p6 protein or a fragment thereof.

10. A method of identifying compounds that inhibit p24 protein b to p15 or p7 protein which comprises the steps of: a) contactin protein or a fragment thereof and p15 or p7 protein or a fragmen thereof in the presence of a test compound, b) determining the binding between p24 protein and p15 or p7 protein and c) compar level to the level of binding that occurs when p24 protein or a thereof and p15 or p7 protein or a fragment thereof are contacte absence of a test compound.

11. A kit for performing the method of identifying compounds whi inhibit p24 protein binding to p15 or p7 protein of claim 10, sa comprising: a) a first container comprising p24 protein or a fr thereof and b) a second container comprising p15 or p7 protein fragment thereof.

12. A method of identifying compounds which inhibit p24 aggregat which comprises the steps of: a) maintaining p24 protein under conditions which promote its aggregation in the presence of a te compound, b) determining the level of p24 aggregation and c) c that level to the level of aggregation that occurs when p24 prot maintained under the same conditions in the absence of a test co

13. A kit for performing the method of identifying compounds whi inhibit p24 aggregation of claim 12, said kit comprising a) a f container comprising p24 protein and b) a second container comp p15 protein or MAb 1238.

14. Isolated **antibodies** which specifically bind to **vpr** protein produced in eukaryotic cells.

15. A method of identifying an individual exposed to HIV compris steps of: a) contacting a sample with **antibodies** according to 14, and b) detecting whether said **antibodies** are bound to **vpr**.

16. A kit for identifying individuals exposed to HIV comprising first container comprising **antibodies** according to claim 14, and second container which contains **vpr** protein produced in eukaryot cells.

17. Isolated **vpr** protein produced in eukaryotic cells.

18. A method of identifying an individual exposed to HIV compris steps of: a) contacting a sample with **vpr** protein according to 17, and b) detecting whether said **vpr** is bound to **antibodies**.

19. A kit for identifying individuals exposed to HIV comprising first container comprising **vpr** protein according to claim 17, an a second container which contains **antibodies** which specifically to **vpr** protein produced in eukaryotic cells.

20. A method of enhancing retroviral propagation in cell culture comprising the step of: adding **vpr** protein in conjunction with infection of the cells by retrovirus; or introducing into a nuc acid molecule that comprises a sequence that encodes **vpr** protei conjunction with infecting said cells with a retrovirus.

21. A method of identifying compounds that inhibit **vpr** enhancem retroviral replication comprising the steps of: a) infecting ce a retrovirus in the presence of **vpr** protein and a test compound infecting with a retrovirus in the presence of **vpr** protein, cel transformed with a nucleic acid molecule that comprises a nucleo sequence that encodes **vpr**, wherein the transformed cells produce protein and b) comparing the amount of virus produced with the of virus produced by infecting cells with a retrovirus in the ab a test compound.

22. A method of modifying macrophage cells comprising the step o contacting macrophage cells with **vpr** protein or introducing into macrophage cells a nucleic acid molecule that comprises a sequen encodes **vpr** protein.

23. A method of treating individuals diagnosed with or suspected suffering from diseases characterized by undesirable activity of macrophage cells comprising the step of administering to such individuals, an effective amount of the pharmaceutical compositi claim 2.

24. Drug delivery particles comprising **vpr**, p24 and a non-HIV, cell-type specific envelope protein.

25. A method of delivering **vpr** to cells comprising administering drug delivery particle of claim 24.

26. A fusion compound comprising a biologically active portion l a **vpr** fragment which binds to p24.

27. Drug delivery particles comprising a fusion compound of clai p24 and a cell-type specific envelope protein.

28. A nucleic acid molecule that comprises a nucleotide sequence encodes a fusion compound of claim 26.

29. An expression vector that comprises a nucleic acid molecule 28.

30. A host cell that comprises an expression vector of claim 29.

31. A method of delivering a fusion compound to cells comprising administering a drug delivery particle of claim 27 wherein said compounds comprised a biologically active portion linked to a **v** fragment which binds to p24

32. A pharmaceutical composition comprising a) **vpr**, an immunog fragment of **vpr** or anti-**vpr antibodies**; and b) a pharmaceutical acceptable carrier.

33. A method of treating an individual exposed to HIV by adminis an immunogenic amount of **vpr**, an immunogenic fragment of **vpr** or effective amount of anti-**vpr antibodies**.

=> d his

(FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005

L1 1 S US4808536/PN
L2 1 S US5001230/PN
L3 1 S US5874225/PN
E WEINER DAVID B/IN

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L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL

=> s (HIV or human immunodeficiency virus)
         36312 HIV
        436901 HUMAN
         20854 IMMUNODEFICIENCY
         85632 VIRUS
         14921 HUMAN IMMUNODEFICIENCY VIRUS
                 (HUMAN(W)IMMUNODEFICIENCY(W)VIRUS)
L9       38258 (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)

=> s l9 and (Vpr or viral protein R)
          1263 VPR
         75902 VIRAL
        196519 PROTEIN
       1047992 R
            39 VIRAL PROTEIN R
                 (VIRAL(W)PROTEIN(W)R)
L10        728 L9 AND (VPR OR VIRAL PROTEIN R)

=> s l10 and antibod?
        118424 ANTIBOD?
L11        675 L10 AND ANTIBOD?

=> s l11 and ay<1994
       1977691 AY<1994
L12          21 L11 AND AY<1994

=> d l12,cbib,1-21

L12  ANSWER 1 OF 21  USPATFULL on STN
2005:471 VPR function and activity.
    Weiner, David B., Merion, PA, United States
    Levy, David Nathan, Philadelphia, PA, United States
    Refaeli, Yosef, Philadelphia, PA, United States
    The Trustees of the University of Pennsylvania, Philadelphia, PA, U
    States (U.S. corporation)The Wistar Institute, Philadelphia, PA, Un
    States (U.S. corporation)
    US 6838236 B1 20050104
    APPLICATION: US 1993-167608  19931215 (8)                          <-
    DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12  ANSWER 2 OF 21  USPATFULL on STN
2000:109568 Antisense viruses and antisense-ribozyme viruses.
    Hu, Wen, Honolulu, HI, United States
```

Wang, Jie, Honolulu, HI, United States
Inpax, Inc., Honolulu, HI, United States (U.S. corporation)
US 6107062 20000822
APPLICATION: US 1992-921104 19920730 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 3 OF 21 USPATFULL on STN
1999:24450 Identification of compounds that modulate **HIV**-1 **vpr** protein
.
Weiner, David B., Merion, PA, United States
Levy, David Nathan, Philadelphia, PA, United States
Trustees of The University of Pennsylvania, Philadelphia, PA, Unite
(U.S. corporation)The Wistar Institute, Philadelphia, PA, United St
(U.S. corporation)
US 5874225 19990223
APPLICATION: US 1993-19601 19930219 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 4 OF 21 USPATFULL on STN
1999:4039 Immunogenic peptides, **antibodies** and uses thereof relating to receptor binding.
Sodroski, Joseph G., Medford, MA, United States
Haseltine, William A., Boston, MA, United States
Olshevsky, Udy, Remath-OAN, Israel
Helseth, Eirik, Trondheim, Norway
Furman, Craig D., Nashua, NH, United States
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5858366 19990112
APPLICATION: US 1993-135312 19931012 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 5 OF 21 USPATFULL on STN
1998:159761 Method of intracellular binding of target molecules.
Marasco, Wayne A., Wellesley, MA, United States
Haseltine, William A., Rockville, MD, United States
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5851829 19981222
WO 9402610 19940203
APPLICATION: US 1995-373190 19950330 (8) <-
WO 1993-US6735 19930716 19950330 PCT 371 date 19950330 PCT 102(e)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 6 OF 21 USPATFULL on STN
1998:122077 Immunogenic peptides, **antibodies** and uses thereof relating
receptor binding.
Sodroski, Joseph G., Medford, MA, United States

Haseltine, William A., Canbridge, MA, United States
Furman, Craig D., Nashua, NH, United States
Olshevsky, Udy, Remath-Oan, Israel
Helseth, Eirik, Trondheim, Norway
Wyatt, Richard, Tewksbury, MA, United States
Thali, Markus, Brookline, MA, United States
Dana-Farber Cancer Instistute, Boston, MA, United States (U.S. corp
US 5817316 19981006
APPLICATION: US 1992-858165 19920326 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 7 OF 21 USPATFULL on STN
1998:75745 DNA fragments obtained from a novel **human immunodeficiency virus** designated LAV_{MAL}.
Alizon, Marc, Paris, France
Sonigo, Pierre, Paris, France
Wain-Hobson, Simon, Montigny les Bretonneux, France
Montagnier, Luc, Le Plessis Robinson, France
Institut Pasteur, Paris, France (non-U.S. corporation)
US 5773602 19980630
APPLICATION: US 1993-154397 19931118 (8) <-
PRIORITY: FR 1986-401380 19860623
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 8 OF 21 USPATFULL on STN
1998:11867 Chimeric envelope proteins for viral targeting.
Weiner, David, Penn Wynn Hills, PA, United States
Williams, William, Havertown, PA, United States
Levy, David N., Philadelphia, PA, United States
The Wistar Institute of Anatomy & Biology, Philadelphia, PA, United
(U.S. corporation)The Trustees of the University of Pennsylvania,
Philadelphia, PA, United States (U.S. corporation)
US 5714316 19980203
APPLICATION: US 1993-147890 19931104 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 9 OF 21 USPATFULL on STN
97:107198 Composition containing a B epitope of the envelope glycoprote
retrovirus and a T epitope of another distinct protein of this retr
Girard, Marc, Paris, France
Gluckman, Jean-Claude, Paris, France
Bahraoui, El Mustapha, Marseille, France
Institut Pasteur, France (non-U.S. corporation)Universite Pierre et
Curie Paris VI, France (non-U.S. corporation)
US 5688914 19971118
APPLICATION: US 1993-150249 19931109 (8) <-
PRIORITY: FR 1989-110044 19890818

DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 10 OF 21 USPATFULL on STN
97:106928 Nucleotide sequences derived from the genome of retroviruses **HIV**-1, **HIV**-2 and SIV type, and their uses in particular for the amplification of the genomes of these retroviruses and for the in v diagnosis of the disease due to these viruses.
Moncany, Maurice, Paris, France
Montagnier, Luc, Le Plessis-Robinson, France
Institut Pasteur, France (non-U.S. corporation) Institut National de Sante et de la Recherche Medicale, France (non-U.S. corporation)
US 5688637 19971118
APPLICATION: US 1993-160465 19931202 (8) <-
PRIORITY: FR 1989-7354 19890602
FR 1989-12371 19890920
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 11 OF 21 USPATFULL on STN
97:81129 Vectors containing **HIV** packaging sequences, packaging defectiv **HIV** vectors, and uses thereof.
Sodroski, Joseph G., Medford, MA, United States
Haseltine, William A., Cambridge, MA, United States
Poznansky, Mark, Cambridge, MA, United States
Lever, Andrew, Pinner Middlesex, England
Gottlinger, Heinrich, Munich, Germany, Federal Republic of
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5665577 19970909
APPLICATION: US 1993-152902 19931115 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 12 OF 21 USPATFULL on STN
97:66033 YC1 gene.
Lu, Yinchen, Wellesley, MA, United States
Haseltine, William A., Cambridge, MA, United States
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5652144 19970729
APPLICATION: US 1992-973431 19921110 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 13 OF 21 USPATFULL on STN
97:3820 Genetic immunization.
Weiner, David B., Merion, PA, United States
Williams, William V., Havertown, PA, United States
Wang, Bin, Havertown, PA, United States
The Wistar Institute, Philadelphia, PA, United States (U.S. corpora
Trustees of the University of Pennsylvania, Philadelphia, PA, Unite

(U.S. corporation)
US 5593972 19970114
APPLICATION: US 1993-125012 19930921 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 14 OF 21 USPATFULL on STN
96:113834 Bacterial expression vectors containing DNA encoding secretio
signals of lipoproteins.
Stover, Charles K., Silver Spring, MD, United States
MedImmune, Inc., Gaithersburg, MD, United States (U.S. corporation)
US 5583038 19961210
APPLICATION: US 1992-977630 19921117 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 15 OF 21 USPATFULL on STN
96:111154 Multiple antigen peptide system having adjuvant properties, v
prepared therefrom and methods of use thereof.
Tam, James P., 607 S. Wilson Blvd., Nashville, TN, United States 3
US 5580563 19961203
WO 9322343 19931111
APPLICATION: US 1994-331489 19941228 (8) <-
WO 1993-US4179 19930503 19941228 PCT 371 date 19941228 PCT 102(e)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 16 OF 21 USPATFULL on STN
95:71261 Non-infectious **HIV** particles lacking long terminal repeats.
Haynes, Joel, Middleton, WI, United States
Klein, Michel H., Willowdale, Canada
Rovinski, Benjamin, Thornhill, Canada
Cao, Shi X., Etobicoke, Canada
Connaught Laboratories Limited, Willowdale, Canada (non-U.S. corpo
US 5439809 19950808
APPLICATION: US 1992-839751 19920615 (7) <-
PRIORITY: GB 1989-23123 19891013
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 17 OF 21 USPATFULL on STN
95:3945 Molecular clones of bovine immunodeficiency-like virus.
Gonda, Matthew A., Walkersville, MD, United States
The United States of America as represented by the Secretary of the
Department of Health and Human Services, Washington, DC, United Sta
(U.S. government)
US 5380830 19950110
APPLICATION: US 1992-980324 19921124 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 18 OF 21 USPATFULL on STN
94:44555 Drosophila cell lines expressing genes encoding MHC class I an
and B2-microglobulin and capable of assembling empty complexes and
of making said cell lines.
Peterson, Per A., LaJolla, CA, United States
Jackson, Michael, Del Mar, CA, United States
Langlade-Demoyen, Pierre, Del Mar, CA, United States
Scripps Research Institute, LaJolla, CA, United States (U.S. corpor
US 5314813 19940524
APPLICATION: US 1992-841662 19920219 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 19 OF 21 USPATFULL on STN
93:52501 Characterization of replication competent human immunodeficien
2 proviral clone **HIV-2**$_{SBL/ISY}$.
Franchini, Genoveffa, Washington, DC, United States
Wong-Staal, Flossie, San Diego, CA, United States
Gallo, Robert, Bethesda, MD, United States
United States of America, Washington, DC, United States (U.S. gover
US 5223423 19930629
APPLICATION: US 1989-331212 19890331 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 20 OF 21 USPATFULL on STN
93:31326 Gene expressing VPT protein and vectors expressing this protei
Haseltine, William A., Cambridge, MA, United States
Cohen, Eric, Brighton, MA, United States
Dana Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5204258 19930420
APPLICATION: US 1989-360847 19890602 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 21 OF 21 USPATFULL on STN
92:46989 Multilayer solid phase immunoassay support and method of use.
Chan, Emerson W., Libertyville, IL, United States
Schulze, Werner, Waukegan, IL, United States
Robey, William G., Libertyville, IL, United States
Braun, Brian P., Gurnee, IL, United States
Daluga, Cynthia K., Lindenhurst, IL, United States
Kapsalis, Andreas A., Evanston, IL, United States
Knigge, Kevin M., Gurnee, IL, United States
Stephens, John E., Chicago, IL, United States
Stojak, II, Joseph J., Waukegan, IL, United States
Vallaris, David S., Grayslake, IL, United States
Durley, deceased, Benton A., late of Antioch, IL, United States by
W. Durley; executrix

Defreese, James D., Lindenhurst, IL, United States
Merkh, Carl W., Lindenhurst, IL, United States
Abbott Laboratories, Abbott Park, IL, United States (U.S. corporati
US 5120662 19920609
APPLICATION: US 1990-532489 19900604 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l12,cbib,ab,clm,10-21

L12 ANSWER 10 OF 21 USPATFULL on STN
97:106928 Nucleotide sequences derived from the genome of retroviruses **HIV**-1, **HIV**-2 and SIV type, and their uses in particular for the amplification of the genomes of these retroviruses and for the in v diagnosis of the disease due to these viruses.
Moncany, Maurice, Paris, France
Montagnier, Luc, Le Plessis-Robinson, France
Institut Pasteur, France (non-U.S. corporation) Institut National de Sante et de la Recherche Medicale, France (non-U.S. corporation)
US 5688637 19971118
APPLICATION: US 1993-160465 19931202 (8) <-
PRIORITY: FR 1989-7354 19890602
FR 1989-12371 19890920
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to nucleotidic sequences derived from geno the **HIV**-1 type virus, or from genomes of the **HIV**-2 type virus, the SIV type virus, and their applications, especially as oligo-nucleotidic initiators of implementation of an $i (in vitr method for the diagnosis of the infection of an individual by a the **HIV**-1 and/or **HIV**-2 type.
CLM What is claimed is:
1. An oligonucleotide primer, said primer having a nucleotide se selected from the following group of nucleotides oriented in the direction: nucleotides 636-653, 854-872, 1369-1388, and 2021-20 gag gene of **HIV**-1 Bru; nucleotides 900-881, 1385-1369, 1388-136 2039-2021 of a nucleic acid sequence complementary to the gag ge **HIV**-1 Bru; nucleotides 635-652, 864-888, 1403-1421, and 2055-20 the gag gene of **HIV**-1 Mal; nucleotides 916-897, 1419-1403, 1421 and 2073-2055 of a nucleic acid sequence complementary to the ga of **HIV**-1 Mal; nucleotides 636-653, 848-872, 1369-1388, and 2024 of the gag gene of **HIV**-1 Eli; nucleotides 900-881, 1385-1369, 1388-1369, and 2042-2024 of a nucleic acid sequence complementar gag gene of **HIV**-1 Eli; nucleotides 859-876, 1160-1184, 1687-170 2329-2349 of the gag gene of **HIV**-2 ROD; nucleotides 1212-1193, 1703-1687, 1706-1687, and 2349-2329 of a nucleic acid sequence complementary to the gag gene of **HIV**-2 ROD; nucleotides 834-851 1124-1148, 1651-1670, and 2299-2318 of the gag gene of SIV-MAC; nucleotides 1176-1157, 1667-1651, 1670-1651, and 2318-2299 of a

acid sequence complementary to the gag gene of SIV-MAC; nucleot
5590-5610 of the **vpr** gene of **HIV**-1 Bru; nucleotides 5870-5849 o
nucleic acid sequence complementary to the **vpr** gene of **HIV**-1 Br
nucleotides 5585-5605 of the **vpr** gene of **HIV**-1 Mal; nucleotides
5865-5844 of a nucleic acid sequence complementary to the **vpr** g
HIV-1 Mal, nucleotides 5554-5574 of the **vpr** gene of **HIV**-1 Eli;
nucleotides 5834-5813 of a nucleic acid sequence complementary t
vpr gene of **HIV**-1 Eli; nucleotides 6233-6296 of the **vpr** gene of
HIV-2 ROD; nucleotides 6551-6531 of a nucleic acid sequence
complementary to the **vpr** gene of **HIV**-2 ROD; nucleotides 6147-61
the **vpr** gene of SIV-MAC; and nucleotides 6454-6431 of a nucleic
sequence complementary to the **vpr** gene of SIV-MAC; nucleotides
2620-2643, 3339-3361, 4186-4207, and 4992-5011 of the pol gene
HIV-1 Bru; nucleotides 2643-2620, 3361-3339, 4207-4186, and 501
of a nucleic acid sequence complementary to the pol gene of **HIV**
nucleotides 2615-2638, 3333-3356, 4181-4202, and 4987-5006 of t
gene of **HIV**-1 Mal; nucleotides 2638-2615, 3356-3334, 4202-4181,
5006-4987 of a nucleic acid sequence complementary to the pol ge
HIV-1 Mal; nucleotides 2584-2607, 3303-3325, 4150-4171, and 495
of the pol gene of **HIV**-1 Eli; nucleotides 2607-2584, 3325-3303,
4171-4150, and 4975-4956 of a nucleic acid sequence complementar
pol gene of **HIV**-1 Eli; nucleotides 2971-2994, 3690-3712, 4534-4
and 5340-5359 of the pol gene of **HIV**-2 ROD; nucleotides 2994-29
3712-3690, 4555-4534, and 5359-5340 of a nucleic acid sequence
complementary to the pol gene of **HIV**-2 ROD; nucleotides 2887-30
3606-3628, 4450-4471, and 5275-5256 of a nucleic acid sequence
complementory to the pol gene of SIV-MAC; 5256-5275 of the pol
SIV-MAC; and nucleotides 3010-2887, 3628-3606, 4471-4450, and
nucleotides 9165-9185 and 9542-9564 of the nef2 gene of **HIV**-2 R
9564-9542 and 9956-9933 of a nucleic acid sequence complementary
nef2 gene of **HIV**-2 ROD; nucleotides 9139-9159 and 9516-9538 of
nef2 gene of SIV-MAC; 9538-9516 and 9839-9870 of a nucleic acid
complementary to the nef2 gene of SIV-MAC; nucleotides 5424-545
5754-5775 of the vif2 gene of **HIV**-2 ROD; nucleotides 5775-5754
6082-6061 of a nucleic acid sequence complementary to the vif2 g
HIV-2 ROD; nucleotides 5340-5366 and 5670-5691 of the vif2 gene
HIV-2 ROD; nucleotides 5691-5670 and 5995-5974 of a nucleic aci
sequence complementary to the vif2 gene of SIV-MAC; nucleotides
5900-5918 of the vpx gene of **HIV**-2 ROD; nucleotides 6228-6208 o
nucleic acid sequence complementary to the vpx gene of **HIV**-2 RO
nucleotides 5813-5831 of the vpx gene of **HIV**-2 ROD; nucleotides
6141-6121 of a nucleic acid sequence complementary to the vpx ge
SIV-MAC; nucleotides 6905-6930, 7055-7077, 7360-7384, 7832-7857
8844-8869, 7629-7647, and 8224-8242 of the env gene of **HIV**-1 Br
nucleotides 6930-6905, 7384-7360, 7857-7832, 8869-8844, and 824
a nucleic acid sequence complementary to the env gene of **HIV**-1
nucleotides 6903-6928, 7053-7075, 7821-7846, 7821-7846, 7612-76
8213-8231, and 8836-8861 of the env gene of **HIV**-1 Mal; nucleoti
6928-6903, 7373-7349, 7846-7821, 8861-8836, and 8231-8213 of a
acid sequence complementary to the env gene of **HIV**-1 Mal; nucle

6860-6885, 7010-7032, 7306-7330, 7775-7800, 8787-8812, 7572-759
8167-8185 of the env gene of **HIV**-1 Eli; and nucleotides 6885-68
7330-7306, 7800-7775, 8812-8787, and 8185-8167 of a nucleic aci
sequence complementary to the env gene of **HIV**-1 Eli; nucleotide
9116-9136 of the nef1 gene of **HIV**-1 Bru; nucleotides 9136-9116
9503-9483 of a nucleic acid sequence complementary to the nef1 g
HIV-1 Bru; nucleotides 9117-9137 of the nef1 gene of **HIV**-1 Mal;
nucleotides 9137-9117 and 9505-9484 of a nucleic acid sequence
complementary to the nef1 gene of **HIV**-1 Mal; nucleotides 9062-9
the nef1 gene of **HIV**-Eli; nucleotides 9082-9062 and 9449-9428 o
nucleic acid sequence complementary to the nef1 gene of **HIV**-1 E
nucleotides 5073-5099 and 5383-5405 of the vif1 gene of **HIV**-1 B
nucleotides 5405-5383 and 5675-5653 of a nucleic acid sequence
complementary to the vif1 gene of **HIV**-1 Bru; nucleotides 5068-5
5378-5400 of the vif1 gene of **HIV**-1 Mal; nucleotides 5400-5378
5670-5648 of a nucleic acid sequence complementary to the vif1 g
HIV-1 Mal; and nucleotides 5037-5063 and 5347-5369 of the vif1
HIV-1 Eli; nucleotides 5369-5347 and 5639-5617 of a nucleic aci
sequence complementary to the vif1 gene of **HIV**-1 Eli; nucleotid
6081-6105 and 6240-6263 of the vpu gene of **HIV**-1 Bru; nucleotid
6343-6321 of a nucleic acid sequence complementary to the vpu ge
HIV-1 Bru; nucleotides 6076-6100 and 6238-6261 of the vpu gene
HIV-1 Mal; nucleotides 6338-6316 of a nucleic acid sequence
complementary to the vpu gene of **HIV**-1 Mal; nucleotides 6045-60
6207-6230 of the vpu gene of SIV-MAC; and nucleotides 6307-6285
nucleic acid sequence complementary to the vpu gene of SIV-MAC.

2. An oligonucleotide primer selected from the group consisting
primers having the following nucleotide sequences from 5' to 3':
TGG CGC CCGAAC AGG GAC TGG CGC CTGAAC AGG GAC MMy2: GGC CAG GGG
GAAAGAAAAA GGC CCG GCG GAAAGAAAAA MMy3: TGC CCA TACAAAATG TTT T
CCA CAC TAT ATG TTT TA MMy4: TGC ATG GCT GCT TGA TG TGC ATA GCT
TG MMy4B: CTT TGC ATG GCT GCT TGA TG CTC TGC ATA GCT GCT TGC TG
CAT CAAGCA GCC ATG CAAAG CAC CAG GCA GCT ATG CAG AG MMy28: AGG
GGAAAT GTG G AGG GCT GTT GGA AGT GTG G MMy28a: CCA CAT TTC CAG
T CCA CAT TTC CAG CAG CCC T CCA CAT TTC CAG CAC CCC T MMy18: G
TGGAAC AAG CCC CAG MMy19: TCC ATT TCT TGC TCT CCT CTG T MMy29: T
CAG GAA TGG ATG GCC CAA TAAAGC CAG GAA TGG ATG GAC CAA MMy29a:
CAT CCA TTC CTG GCT TTA TTG GTC CAT CCA TTC CTG GCT TTA MMy30:
GTC AAT GAC ATA CAGAA TGG ACT GTC AAT GAT ATA CAGAA MMy30a: TTC
TCA TTG ACA GTC CA TTC TGT ATG TCA TTG ACT GTC CA MMy31: CAT GG
CAG CAC ACAAAG G MMy31a: CCT TTG TGT GCT GGT ACC CAT G MMy32: TG
GGT GAA GGG GCA GT TGG AAA GGT GAAGGA GCA GT MMy32a: ACT GCC CC
CCT TTC CA ACT GCC CCT TCT CCT TTC CA ACT GCC CCT TCC CCT TTC
MMy12: AGA GAC TCT TGC GGG CGC GTG MMy13: ATA TAC TTA GAAAAG GAA
MMy13a: CCT TCT TCC TTT TCTAAG TAT AT MMy14: AGC TGA GAC AGC AGG
CCA MMy20: TAT GGA GGA GGAAAAGAG ATG GAT AGT MMy21: TAG CAC TTA
TTG CTT T MMy21a: AAA GCA AGG GAAATA AGT GCT A MMY22: CCC TTG TT
ATG CCA GTA T MMy23: ATG TCA GAT CCC AGG GAG A MMy24: CCT GGA GG
GGA GGA GGA MMy5: CCA ATT CCC ATA CAT TAT TGT GCC CC MMy5a: GGG

TAATGT ATG GGA ATT GG MMy6: AAT GGC AGT CTA GCA GAA GAA GA MMy7: A0G AGG GGA CCC AGAAAT T MMy7a: AAT TTC TGG GTC CCC TCC TGA GGA GTG CTT CCT GCT GCT CCC AAG AAC CC MMy8a: GGG TTC TTG GGA GCA GC AGC AC MMy9: ATG GGT GGC AAG TGG TCAAAAAGT AG ATG GGT GGCAAATGG TCAAAAAGT AG MMy9a: CTA CTT TTT GAC CAC TTG CCA CCC AT MMy89: TT CTT TTC TTG CTG G MMy10: AAAAGAAAAGGG GGG ACT GGA MMy10a: TCC AG CCC TTT TCT TTT MMy11: AAA GTC CCC AGC GGAAAG TCC C MMy15: GAT T GGAAAA CAG ATG GCA GGT GAT MMy16: GCAGAC CAACTA ATT CAT CTG TA M TAC AGA TGA ATT AGT TGG TCT GC MMy17: CTT AAG CTC CTC TAAAAG CTC MMy25: GTA AGT AGT ACA TGTAAT GCA ACC T MMy26: AGC AGA AGA CAG T CCATGA GAG MMy27: ACT ACA GAT CAT CAATAT CCC AA.

3. A method for amplifying nucleic acids of viruses of the **HIV**-**HIV**-2, and SIV type in a biological sample, said method comprisi extracting said nucleic acid from said biological sample; b) tre said nucleic acid with a reverse transcriptase if said nucleic a RNA; and c) performing an amplification cycle comprising the fol steps: denaturing the nucleic acid to be detected to form single-stranded nucleic acids, hybridizing each of said nucleic single strands with at least one primer according to any one of and 2, by placing said single strands in contact with at least o said primers, and amplifying said nucleic acid strands by elonga said primers along the strands to which they are hybridized in t presence of a polymerase, dATP, dGTP, dCTP and dTTP, said cycle repeated about 30 to about 40 times.

4. The method of claim 3 wherein the step of denaturing the nucl is carried out in the presence of said primer.

5. A method of in vitro diagnosis of infection of a mammal by a selected from the group consisting of **HIV**-1, **HIV**-2, and SIV, sa method comprising detecting nucleic acid of said virus by a) obt biological sample from said mammal, wherein said biological samp comprises nucleic acid; b) extracting nucleic acid of said virus said biological sample and, if said nucleic acid is RNA, treatin nucleic acid with a reverse transcriptase to produce a double-s nucleic acid comprising said nucleic acid and its complementary c) performing an amplification cycle comprising the following st denaturing the double-stranded nucleic acid to be detected to fo single-stranded nucleic acids, hybridizing each of said nucleic single strands with at least one primer according to any one of and 2, by placing said single strand in contact with said primer hybridization conditions, and amplifying said nucleic acid singl strands by elongation of said primers along the strands to which are hybridized in the presence of a polymerase, dATP, dGTP, dCTP dTTP, said cycle being repeated about 10 to about 60 times; d) d the nucleic acid of said virus and e) correlating the presence o nucleic acid of said virus with infection by said virus.

6. The diagnostic method of claim 5, wherein the hybridization s

the cycle is carried out by placing each of said single-strande acids in contact with said primers, wherein said primers hybridi a nucleotide sequence situated on the first strand of said double-stranded nucleic acid and with a nucleotide sequence situ the strand complementary to said first strand, said nucleic acid sequences being separated by a region of about 50 to about 10,00 pairs when said complementary strands are hybridized to form one double-stranded nucleic acid.

7. The method of claim 6, wherein said region is about 100 to ab base pairs.

8. The method according to claim 5, wherein said detecting step comprises hybridizing at least one detectably labelled nucleotid to said amplified nucleic acid.

9. The method of claim 5 wherein said virus is **HIV**-1 or **HIV**-2, said primer couple is selected from the group consisting of MMy1 MMy2-MMy4, MMy1-MMy3, MMy18-MMy19, MMy4a-MMy28a, MMy28-MMy29a, MMy29-MMy30a, and MMy31-MMy32a.

10. The method of claim 5 wherein said virus is **HIV**-1, and said couple is selected from the group consisting of MMy5-MMy8, MMy6 MMy7-MMy8, MMy5-MMy7a, MMy6-MMy7a, MMy9-MMy11, MMy10-MMy11, MMy MMy26-MMy5a, MMy8a-MMy9a, MMy8a-MMy89a, MMy89a-MMy9a, MMy15-MMy MMy15-MMy16a, MMy16-MMy17, MMy25-MMy27, and MMy26-MMy27.

11. The method of claim 5, wherein said virus is **HIV**-2, and sai primer, couple is selected from the group consisting of MMy20-M MMy20,-MMy21a, MMy21-MMy22, MMy23-MMy24, MMy12-MMy14, and MMy12

12. The method of claim 5, wherein said virus comprises a gene s from the group consisting of gag, **vpr**, env, nef1, vif1, vif2, vp nef2, vpu and pol, and said primer couple is selected from the g consisting of MMy1-MMy4, MMy2-MMy4, MMy1-MMy3, MMy4a-MMy28a for gene; MMy18-MMy19 for the **vpr** gene; MMy5-MMy8, MMy6-MMy8, MMy7- MMy5-MMy7a, MMy6-MMy7a, MMy26-MMy5a, MMy8a-MMy9a, MMy8a-MMy89, MMy89a-MMy9a for the env gene; MMy9-MMy11, MMy9-MMy10a, MMy10-M the nef1 gene; MMy15-MMy17, MMy15-MMy16a, MMy16-MMy17 for the v MMy20-MMy22, MMy20-MMy21a, MMy21-MMy22 for the vif2 gene; MMy23 for the vpx gene; MMy12-MMy14, MMy12-MMy13a, MMy13-MMy14 for th gene; MMy25-MMy27, MMy26-MMy27 for the vpu gene; and MMy28-MMy2 MMy29-MMy30a, MMy30-MMy31a, MMy31-MMy32a for the pol gene.

13. A diagnostic kit for the in vitro diagnosis of infection of by a virus selected from the group consisting of **HIV**-1, **HIV**-2, SIV by detecting the presence of **HIV**-1, **HIV**-2 or SIV nucleic ac a strand of DNA complementary to said nucleic acid, said kit com a) at least a first and a second prime according to any one of c and 2, wherein said first primer is complementary to a region of

nucleotides of the nucleic acid of said virus, and said second p complementary to a region of nucleotides of the strand of DNA complementary to said nucleic acid of said virus, wherein said r of nucleotides are separated by about 50 to about 10,000 base pa said complementary strands are incorporated into one double-str nucleic acid; b) reagents for amplifying said nucleic acid; and least one detectably labelled probe capable of hybridizing with amplified nucleotide sequence to be detected.

14. An oligonucleotide primer couple for the amplification accor any one of claims 3 and 5, said primer couple selected from the consisting of MMy4Ba-MMy28a, MMy26-MMy5a, MMy8a-MMy89, MMy89a-M MMy25-MMy27, MMy26-MMy27, MMy28-MMy29a, MMy29-MM30a, MMy30-MMy3 MMy31-MMy32a.

L12 ANSWER 11 OF 21 USPATFULL on STN
97:81129 Vectors containing **HIV** packaging sequences, packaging defectiv **HIV** vectors, and uses thereof.
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Haseltine, William A., Cambridge, MA, United States
Poznansky, Mark, Cambridge, MA, United States
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Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5665577 19970909
APPLICATION: US 1993-152902 19931115 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Packaging defective and packaging proficient **HIV** vectors are disclosed. These vectors can be used to establish **HIV** packaging defective cell lines, and to package desired genes. These cell l be used in developing a vaccine, **HIV antibodies** and as part of system for gene transfer. The packaging proficient vector can be target **HIV** target cells.
CLM What is claimed is:
1. An **HIV** vector comprising: (a) a DNA segment from an **HIV** geno wherein the DNA segment comprises the **HIV** gag, pol and env gene wherein said **HIV** vector lacks the **HIV** packaging sequence necessa to package **HIV** RNA into virions; wherein said **HIV** packaging seq is the nucleotide sequence located between the 5' major splice d site and the initiation codon of the gag gene on the **HIV** genome (b) a promoter operably linked to the DNA segment from an **HIV** g of (a); wherein the **HIV** vector, when introduced into a eukaryoti cell, express **HIV** gag, pol and env proteins to form **HIV** virions do not contain sufficient **HIV** RNA to result in a replication com **HIV** virion.

2. The **HIV** vector claim 1, wherein the promoter is an **HIV** LTR.

3. The **HIV** vector of claim 1, wherein the promoter functions to express genes preferentially in specific cell types.

4. The **HIV** vector claim 3, wherein the promoter is a CMV promote

5. The **HIV** vector of claim 1, wherein the **HIV** packaging sequenc a nucleotide sequence located from the 5' major splice donor sit about 5 bases upstream of the gag gene initiation codon.

6. The **HIV** vector of claim 1, wherein the **HIV** packaging sequenc a nucleotide sequence located from about 9 bases downstream of t major splice donor site to about 14 bases upstream of the gag ge initiation codon.

7. The **HIV** vector of claim 1, wherein the **HIV** packaging sequenc the sequence AAAAATTTTGACTAGCGGA.

8. The **HIV** vector of claim 1, wherein the **HIV** genome is an **HIV**-

9. Thee **HIV** vector of claim 7, wherein the **HIV** genome is an **HIV** genome.

10. The **HIV** vector of claim 8, wherein the promoter is an **HIV**-1

11. The **HIV** vector of claim 9, wherein the promoter is an **HIV**-1

12. At least two **HIV** vectors, wherein each of the at least two vectors has (a) a DNA segment encoding a gag or an env gene from **HIV** genome but not both, wherein one of the at least two **HIV** ve or an additional **HIV** vector has a DNA segment encoding a pol gen an **HIV** genome, wherein each of the **HIV** vectors lacks the **HIV** packaging sequence necessary to package **HIV** RNA into virions; w said **HIV** packaging sequence is the nucleotide sequence located b the 5' major splice donor site and the initiation codon of the g on the **HIV** genome; (b) a promoter operably linked to each of the segments from an **HIV** genome of (a); and (c) a polyadenylation se located downstream of each of the DNA segments from an **HIV** geno (a); wherein the polyadenylation sequence does not comprise a fu LTR sequence; wherein the vectors, when introduced into a eukary host cell, express in combination the gag, pol and env proteins **HIV** virions that do not contain sufficient **HIV** RNA to result in replication competent **HIV** virion.

13. Two **HIV** vectors, wherein each vector has inserted therein: (exactly one of two of any of three DNA segments from an **HIV** gen wherein the three DNA segments are selected from the group consi the **HIV** gag, pol and env genes; wherein each of the two vectors the **HIV** packaging sequence necessary to package **HIV** RNA into virions; wherein said **HIV** packaging sequence is the nucleotide sequence located between the 5' major splice donor site and the

initiation codon of the gag gene on the **HIV** genome; (b) a promo operably linked to each of the DNA segments from an **HIV** genome and (c) a polyadenylation sequence located downstream of each of segments from an **HIV** genome of (a); wherein the polyadenylation sequence does not comprise a functional LTR sequence; wherein th vectors, when introduced into a eukaryotic host cell, express in combination the gag, pol and env proteins to form **HIV** virions t not contain sufficient **HIV** RNA to result in a replication compet **HIV** virion.

14. The two **HIV** vectors of claim 13, wherein either or both vect further comprise at least one **HIV** regulatory gene which expresse functional **HIV** regulatory protein in said eukaryotic host cell.

15. The two **HIV** vectors of claim 14, wherein said **HIV** regulator gone is selected from the group consisting of tat, rev, vpu, **vp** vif.

16. The two **HIV** vectors of claim 13, wherein the **HIV** vector containing the **HIV** env gene does not also contain the gag gene.

17. The two **HIV** vectors of claim 13, wherein the promoter of (b) **HIV** LTR.

18. The two **HIV** vectors of claim 13, wherein the **HIV** packaging sequence is a nucleotide sequence located from the 5' major spli site to about 5 bases upstream of the gag initiation codon.

19. The two **HIV** vectors of claim 13, wherein the **HIV** genome is selected from the group consisting of **HIV**-1 and **HIV**-2.

20. The two **HIV** vectors of claim 13, wherein the **HIV** genome is **HIV**-1 genome.

21. The two **HIV** vectors of claim 13, wherein the **HIV** genome is **HIV**-2 genome.

22. The two **HIV** vectors of claim 13, wherein the first of the tw **HIV** vectors contains both the **HIV** gag and the **HIV** pol genes.

23. The two **HIV** vectors of claim 22, wherein the second of the t **HIV** vectors contains the env gene.

24. The two **HIV** vectors of claim 22, wherein the promoter for th first of the two **HIV** vectors is an **HIV** LTR.

25. The two **HIV** vectors of claim 23, wherein the promoter for th second of the two **HIV** vectors is an **HIV** LTR.

26. The two **HIV** vectors of claim 23, wherein the polyadenylation

sequence is the SV40 polyadenylation sequence.

27. The two **HIV** vectors of claim 22, wherein the polyadenylation sequence for the first of the two **HIV** vectors is the SV40 polyadenylation sequence.

28. The two **HIV** vectors of claim 23, wherein the polyadenylation sequence for the second of the two **HIV** vectors is the SV40 polyadenylation sequence.

29. The two **HIV** vectors of claim 28, wherein the second of the t **HIV** vectors further comprises an **HIV** rev gene which expresses a functional **HIV** rev protein in said eukaryotic host cell.

30. The two **HIV** vectors of claim 13 wherein each of the two **HIV** vectors further comprises an **HIV** RRE sequence.

31. Three vectors, wherein the first two vectors consist of the **HIV** vectors of claim 13, and the third vector is a retroviral ve which comprises: (i) a gene of interest, wherein said gene is heterologous to an **HIV** genome; (ii) a promoter operably linked t gene of (i); (iii) an **HIV** packaging sequence necessary to packag **HIV** RNA into **HIV** virions; and (iv) single **HIV** LTRs flanking the sequences of (i), (ii) and (iii), wherein the **HIV** LTRs are the **HIV** LTR and the 3' **HIV** LTR which permit reverse transcription an integration of the third vector in a eukaryotic host cell; where first two **HIV** vectors, when introduced into a eukaryotic host ce express in combination the **HIV** gag, pol and env proteins such th when the third vector is also introduced into said host cell, th gag, pol and env proteins will package the third vector into inf **HIV** vector virions.

32. The three vectors of claim 31, wherein the gene of (i) furth comprises a polyadenylation sequence located downstream of said

33. The three vectors of claim 31, wherein the third vector furt comprises a second gene heterologous to an **HIV** genome.

34. The three vectors of claim 31, wherein the **HIV** packaging se of (iii), present in the third vector, is the nucleotide sequenc located between the 5' major splice donor site and up to at most nucleotide position 385 located in the 5' portion of the gag gen **HIV**-1 genome.

35. The three vectors of claim 31, wherein the **HIV** packaging se of (iii), present in the third vector, is the nucleotide sequenc located between the 5' major splice donor site and about nucleot position 338 to 385 located in the 5' portion of the gag gene on **HIV**-1 genome.

36. The three vectors of claim 31, wherein the **HIV** packaging se of (iii), present in the third vector, is the nucleotide sequenc located between the 5' major splice donor site and about nucleot position 350 to 381 located in the 5' portion of the gag gene on **HIV**-1 genome.

37. The three vectors of claim 31, wherein the **HIV** packaging se of (iii), present in the third vector, is the nucleotide sequenc located between the 5' major splice donor site and a Bal I restr site at the 3' end of the gag gene of the HXBc2 strain of **HIV**-1

38. The three vectors of claim 31, wherein the promoter of (ii) viral promoter.

39. The three vectors of claim 38, wherein the viral promoter is promoter.

40. The three vectors of claim 31, wherein the gene of (i) encod trans-dominant inhibitor protein, an antisense RNA, a catalytic soluble CD4 protein.

41. The three vectors of claim 31, wherein the promoter of (ii) 5' **HIV** LTR of (iv).

42. The three vectors of claim 31, wherein the promoter of (ii) promoter heterologous to an **HIV** genome.

43. Two **HIV** vectors wherein (a) one **HIV** vector, referred to as first vector, contains a DNA segment from an **HIV** genome consist the **HIV** gag gene or the **HIV** gag-pol genes, wherein said first ve does not contain a DNA segment containing the **HIV** env gene, whe said first vector can optionally contain a DNA segment from an genome consisting of the **HIV** pol gene, (b) the other **HIV** vector referred to as said second vector, contains a DNA segment from a genome consisting of the **HIV** env gene, wherein said second vecto not contain a DNA segment containing the **HIV** gag gene, wherein second vector can optionally contain a DNA segment from an **HIV** consisting of the **HIV** pol gene, (c) wherein each of the **HIV** vec lacks the **HIV** packaging sequence necessary to package **HIV** RNA i virions; wherein said **HIV** packaging sequence is the nucleotide sequence located between the 5' major splice donor site and the initiation codon of the gag gene on the **HIV** genome; (d) a promo operably linked to each of the DNA segments from an **HIV** genome and (b); and (e) a polyadenylation sequence located downstream o of the DNA segments from an **HIV** genome of (a) and (b); wherein t polyadenylation sequence does not comprise a functional LTR sequ wherein the two **HIV** vectors, when introduced into a eukaryotic h cell, express in combination the gag, pol and env proteins to fo virions that do not contain sufficient **HIV** RNA to result in a replication competent **HIV** virion.

44. The two **HIV** vectors of claim 43, wherein either or both **HIV** vectors further comprise at least one **HIV** regulatory gene which expresses a functional **HIV** regulatory protein in said eukaryotic cell.

45. The two **HIV** vectors of claim 44, wherein said **HIV** regulator gene is selected from the group consisting of tat, rev, vpu, **vp** vif.

46. The two **HIV** vectors of claim 43 wherein each of the two **HIV** vectors further comprises an **HIV** RRE sequence.

47. Three vectors, wherein the first two vectors consist of the **HIV** vectors of claim 43, and the third vector is a retroviral ve which comprises: (i) a gene of interest, wherein said gene is heterologous to an **HIV** genome; (ii) a promoter operably linked t gene of (i); (iii) an **HIV** packaging sequence necessary to packag **HIV** RNA into virions; and (iv) single **HIV** LTRs flanking the sequences of (i), (ii) and (iii), wherein the **HIV** LTRs are the **HIV** LTR and the 3' **HIV** LTR which permit reverse transcription an integration of the third vector in a eukaryotic host cell; where first two **HIV** vectors, when introduced into a eukaryotic host ce express in combination the **HIV** gag, pol and env proteins such th when the third vector is also introduced into said host cell, th gag, pol and env proteins will package the third vector into inf **HIV** vector virions.

48. The three vectors of claim 47, wherein the gene of (i) furth comprises a polyadenylation sequence located downstream of said

49. The three vectors of claim 47, wherein the third vector furt comprises a second gene heterologous to an **HIV** genome.

50. The three vectors of claim 47, wherein the promoter of (ii) viral promoter.

51. The three vectors claim 50, wherein the viral promoter is th promoter.

52. The three vectors of claim 47, wherein the gene of (i) encod trans-dominant inhibitor protein, an antisense RNA, a catalytic soluble CD4 protein.

53. Four vectors, wherein the first three vectors consist of the vectors of claim 47, and the fourth vector is an **HIV** vector whi contains: (f) a DNA segment from an **HIV** genome consisting of at one **HIV** regulatory gene, wherein the fourth vector lacks the **HI** packaging sequences necessary to package **HIV** RNA into virions; said **HIV** packaging sequence is the nucleotide sequence located b

the 51 major splice donor site and the initiation codon of the g on the **HIV** genome; (g) a promoter operably linked to the DNA seg from the **HIV** genome of (f), and (h) a polyadenylation sequence l downstream of the DNA segments from the **HIV** genome of (g), wher polyadenylation sequence does not comprise a functional LTR sequ

54. The four vectors of claim 53, wherein the fourth vector cont **HIV** vpu gene and does not contain the **HIV** gag and env genes.

55. A method of producing an **HIV** packaging cell line which compr transforming an established cell line with the vectors of claim

56. A method of producing an **HIV** packaging cell line which compr transforming an established cell line with the vector of claim 1

57. A method of producing an **HIV** packaging cell line which compr transforming an established cell line with the vectors of claim

58. A method of producing an **HIV** packaging cell line which compr transforming an established cell line with the vectors of claim

59. The method of claim 55, wherein the established cell line is mammalian cell line.

60. The method of claim 56, wherein the established cell line is mammalian cell line.

61. The method of claim 57, wherein the established cell line is mammalian cell line.

62. The method of claim 58, wherein the established cell line is mammalian cell line.

63. An **HIV** packaging cell line which comprises an established ce line transformed by the vectors of claim 12.

64. An **HIV** packaging cell line which comprises an established ce line transformed by the vector of claim 1.

65. An **HIV** packaging cell line which comprises an established ce line transformed by the vectors of claim 13.

66. An **HIV** packaging cell line which comprises an established ce line transformed by the vectors of claim 43.

67. A method of transferring a gene of interest to a mammalian c comprising: (a) transfecting a eukaryotic host cell with the thr vectors of claim 31; (b) culturing the transfected host cell of collecting the packaged virions produced; (c) administering the of (b) to a mammalian cell to allow infection of the mammalian c

transfer of the gene of interest.

68. A method of transferring a gene of interest to a mammalian c comprising: (a) transfecting a eukaryotic host cell with the thr vectors of claim 47; (b) culturing the transfected host cell of collecting the packaged virions produced; (c) administering the of (b) to a mammalian cell to allow infection of the mammalian c transfer of the gene of interest.

69. The method of claim 67, wherein the mammalian cell is locate vitro.

70. The method of claim 68, wherein the mammalian cell is locate vitro.

71. The method of claim 67, wherein the mammalian cell is locate vivo.

72. The method of claim 68, wherein the mammalian cell is locate vivo.

L12 ANSWER 12 OF 21 USPATFULL on STN
97:66033 YC1 gene.
Lu, Yinchen, Wellesley, MA, United States
Haseltine, William A., Cambridge, MA, United States
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5652144 19970729
APPLICATION: US 1992-973431 19921110 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Isolated and purified YC1 genes and proteins are disclosed. The binds to a site in the **HIV**-LTR, the NRE-1 site, and can inhibit expression of a gene operably linked to the **HIV**-1 LTR. The use protein and gene are discussed. Repressible and inducible expres systems using the YC1 gene are also disclosed.
CLM What is claimed is:
1. An isolated and purified nucleic acid segment having SEQ ID N portion of said segment wherein said segment or said portion the encodes a protein that binds to a **HIV** LTR NRE-1 site and inhibi expression of a gene operably linked to said **HIV** LTR NRE-1 site

2. An RNA molecule encoded by the nucleic acid segment in claim

3. A vector comprising a promoter operably linked to the nucleic segment of claim 1.

4. An isolated and purified nucleic acid sequence having a segme having SEQ ID NO:2 or a portion of said segment, wherein said se said portion encodes a protein that binds to a **HIV** LTR NRE-1 si

inhibits expression of a gene operably linked to said **HIV** LTR N site, wherein said segment or said portion is operably linked to promoter.

L12 ANSWER 13 OF 21 USPATFULL on STN
97:3820 Genetic immunization.
Weiner, David B., Merion, PA, United States
Williams, William V., Havertown, PA, United States
Wang, Bin, Havertown, PA, United States
The Wistar Institute, Philadelphia, PA, United States (U.S. corpora
Trustees of the University of Pennsylvania, Philadelphia, PA, Unite
(U.S. corporation)
US 5593972 19970114
APPLICATION: US 1993-125012 19930921 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods of prophylactic and therapeutic immunization of an indiv against pathogen infection, diseases associated with hyperprolif cells and autoimmune diseases are disclosed. The methods compris steps of administering to cells of an individual, a nucleic acid molecule that comprises a nucleotide sequence that encodes a pro which comprises at least one epitope that is identical or substa similar to an epitope of a pathogen antigen, a hyperproliferativ associated protein or a protein associated with autoimmune disea respectively. In each case, nucleotide sequence is operably link regulatory sequences to enable expression in the cells. The nucl molecule is free of viral particles and capable of being express said cells. The cells may be contacted cells with a cell stimula agent. Methods of prophylactically and therapeutically immunizin individual against **HIV** are disclosed. Pharmaceutical composition kits for practicing methods of the present invention are disclos
CLM What is claimed is:
1. A method of immunizing an individual comprising: injecting in skeletal muscle tissue of said individual at a site on said indi body, bupivacaine and a DNA molecule that comprises a DNA sequen encodes an antigen from a pathogen, said DNA sequence operativel to regulatory sequences which control the expression of said DNA sequence; wherein said DNA molecule is taken up by cells in said skeletal muscle tissue, said DNA sequence is expressed in said c an immune response is generated against said antigen.

2. The method of claim 1 wherein said pathogen is an intracellul pathogen.

3. The method of claim 1 wherein said pathogen is a virus select the group consisting of: **human immunodeficiency virus, HIV;** human T cell leukemia virus, HTLV; influenza virus; hepatitis A hepatitis B virus; hepatitis C virus; human papilloma virus, HPV simplex 1 virus, HSV1; Herpes simplex 2 virus, HSV2; Cytomegalov

CMV; Epstein-Barr virus, EBR; rhinovirus; and, coronavirus.

4. The method of claim 1 wherein said pathogen is **HIV** and said molecule comprises a DNA sequence that encodes an **HIV** antigen.

5. The method of claim 1 wherein at least two non-identical DNA molecules are injected into skeletal muscle tissue of said indiv different sites on said individual's body, said bupivacaine bein injected into each of the different sites of an individual; said non-identical DNA molecules each comprising DNA sequences encodi or more pathogen antigens of the same pathogen.

6. A method of immunizing an individual comprising: injecting in skeletal muscle tissue of said individual at a site on said indi body, bupivacaine and a DNA molecule that comprises a DNA sequen encodes a hyperproliferative disease-associated protein operativ linked to regulatory sequences; wherein said DNA molecule is tak cells in said skeletal muscle tissue, said DNA sequence is expre said cells, and an immune response is generated against said hyperproliferative disease-associated protein.

7. The method of claim 6 wherein said DNA molecule comprises a D sequence encoding a target protein selected from the group consi of: protein products of oncogenes myb, myc, fyn, ras, src, neu a protein products of translocation gene bcr/abl; P53; variable re **antibodies** made by B cell lymphomas; and variable regions of T c receptors of T cell lymphomas.

8. A method of immunizing an individual comprising: injecting in skeletal muscle tissue of said individual, bupivacaine and a DNA molecule that comprises a DNA sequence that encodes an autoimmun disease-associated protein operatively linked to regulatory sequ wherein said DNA molecule is taken up by cells in said skeletal tissue, said DNA sequence is expressed in said cells and an immu response is generated against said autoimmune disease-associate protein.

9. The method of claim 8 wherein said DNA molecule comprises a D sequence encoding a target protein selected from the group consi of: variable regions of **antibodies** involved in B cell mediated autoimmune disease; and variable regions of T cell receptors inv T cell mediated autoimmune disease.

L12 ANSWER 14 OF 21 USPATFULL on STN
96:113834 Bacterial expression vectors containing DNA encoding secretio signals of lipoproteins.
Stover, Charles K., Silver Spring, MD, United States
MedImmune, Inc., Gaithersburg, MD, United States (U.S. corporation)
US 5583038 19961210

APPLICATION: US 1992-977630 19921117 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An expression vector for expressing a protein or polypeptide in bacterium, which comprises a first DNA sequence encoding at leas secretion signal of a lipoprotein, and a second DNA sequence enc protein or fragment thereof, or polypeptide or peptide heterolog the bacterium which expresses the protein or fragment thereof, o polypeptide or peptide. The bacterium expresses a fusion protein lipoprotein or lipoprotein segment and the protein or fragment t or polypeptide or peptide heterologous to the bacterium which ex the protein or fragment thereof, or polypeptide or peptide. Such expression vectors increase the immunogenicity of the protein or fragment thereof, or polypeptide or peptide by enabling the prot fragment thereof, or polypeptide or peptide to be expressed on t surface of the bacterium. Bacteria which may be transformed with expression vector include mycobacteria such as BCG. The expressi vectors of the present invention may be employed in the formatio live bacterial vaccines against Lyme disease wherein the bacteri express a surface protein of Borrelia burgdorferi, the causative of Lyme disease.
CLM What is claimed is:
1. Recombinant mycobacteria transformed with DNA encoding a poly said polypeptide comprising a lipoprotein secretion signal seque an antigen heterologous to the mycobacteria wherein the lipoprot secretion signal causes the antigen to be produced as a lipoprot

2. The mycobacteria of claim 1 wherein the mycobacteria is BCG.

3. The mycobacteria of claim 2 wherein said DNA further includes mycobacterial origin of replication.

4. The mycobacteria of claim 2 wherein said DNA further comprise sequence encoding mycobacteriophage integration into a mycobacte chromosome.

5. The mycobacteria of claim 1 wherein the lipoprotein secretion sequence is a secretion signal sequence of a mycobacterial lipop

6. The mycobacteria of claim 5 wherein said mycobacterial lipopr an M. tuberculosis lipoprotein.

7. The mycobacteria of claim 6 wherein said M. tuberculosis lipo is selected from the group consisting of the 19 kda and 38 kda a

8. The mycobacteria of claim 6 wherein the mycobacteria is BCG.

9. The mycobacteria of claim 5 wherein the mycobacteria is BCG.

10. Mycobacteria transformed with DNA encoding a polypeptide, sa

polypeptide comprising a lipoprotein secretion signal sequence a antigen which elicits **antibodies** against Borrelia burgdorferi, w the lipoprotein secretion signal causes the antigen to be produc lipoprotein.

11. The mycobacteria of claim 10 wherein said DNA encodes an ant derived from Borrelia burgdorferi.

12. The mycobacteria of claim 11 wherein said antigen is selecte the group consisting of Outer Surface Protein A antigen and an O Surface Protein B antigen.

13. The mycobacteria of claim 10 wherein said mycobacteria is BC

14. The mycobacteria of claim 13 wherein the antigen is an Outer Protein A antigen.

15. The mycobacteria of claim 14 wherein said lipoprotein secret signal sequence is the lipoprotein secretion signal sequence of Surface Protein A.

16. The mycobacteria of claim 10 wherein the lipoprotein secreti signal sequence is a secretion signal sequence of a mycobacteria lipoprotein.

17. The mycobacteria of claim 16 wherein said mycobacterial lipo is an M. tuberculosis lipoprotein.

18. The mycobacteria of claim 17 wherein said M. tuberculosis lipoprotein is selected from the group consisting of the 19 kda kda antigens.

19. The mycobacteria of claim 16 wherein the mycobacteria is BCG

20. The mycobacteria of claim 10 wherein the antigen is an Outer Protein A antigen.

21. A method of protecting an animal against Lyme disease, compr administering to an animal the mycobacteria of claim 10 in an am effective to protect an animal against Lyme disease.

22. The method of claim 21 wherein said DNA encodes an antigen d from Borrelia burgdorferi.

23. The method of claim 22 wherein said antigen is selected from group consisting of an Outer Surface Protein A antigen and Outer Protein B antigen.

24. The method of claim 22 wherein the lipoprotein secretion sig sequence is a secretion signal sequence of a mycobacterial lipop

25. The method of claim 24 wherein said mycobacterial lipoprotei
M. tuberculosis lipoprotein.

26. The method of claim 25 wherein said M. tuberculosis lipoprot
selected from the group consisting of the 19 kda and 38 kda anti

27. The method of claim 22 wherein the antigen is an Outer Surfa
Protein A antigen.

28. The method of claim 27 wherein the mycobacteria is BCG.

29. The method of claim 21 wherein the mycobacteria is BCG.

30. The method of claim 29 wherein the antigen is an Outer Surfa
Protein A antigen.

31. The method of claim 30 wherein said lipoprotein secretion si
sequence is the lipoprotein secretion signal sequence of Outer S
Protein A.

L12 ANSWER 15 OF 21 USPATFULL on STN
96:111154 Multiple antigen peptide system having adjuvant properties, v
prepared therefrom and methods of use thereof.
Tam, James P., 607 S. Wilson Blvd., Nashville, TN, United States 3
US 5580563 19961203
WO 9322343 19931111
APPLICATION: US 1994-331489 19941228 (8) <-
WO 1993-US4179 19930503 19941228 PCT 371 date 19941228 PCT 102(e)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A multiple antigenic peptide system is disclosed that comprises
dendritic core and peptide and a lipophilic anchoring moiety. Th
particular combination has as an advantage that it eliminates th
for the inclusion of adjuvants found to be toxic to humans, and
facilitates the exponential amplification of the antigenic poten
a vaccine prepared therefrom, as noncovalent amplification by a
or micellar form is possible. Further, multiple different antige
peptides may be attached so that the system may be prepared for
administration to concurrently treat diverse ailments, such as f
example, AIDS and influenza. The present multiple antigen peptid
is capable of eliciting an immune response when injected into a
and accordingly, vaccines prepared from the system and methods o
including therapeutic protocols are included.
CLM What is claimed is:
1. A multiple antigen peptide system comprising a dendritic core
which are covalently attached at least one peptide and a lipophi
membrane anchoring moiety, wherein said multiple antigen peptide
exhibits adjuvant properties and when injected into a mammal, is

of cliciting a full immune response provided by both humoral and mediated immunities including a cytotoxic T lymphocyte immune re

2. The multiple antigen peptide system of claim 1 wherein said lipophilic membrane anchoring moiety comprises a constituent sel from the group consisting of a lipoamino acid, a liposome, a sap derivative alone or in admixture with cholesterol, and a suitabl surfactant material.

3. The multiple antigen peptide system of claim 2, wherein said lipophilic membrane anchoring moiety comprises a lipoamino acid.

4. The multiple antigen peptide system of claim 1 wherein said d core comprises a bifunctional unit.

5. The multiple antigen peptide system of claim 1 further compri covalently attached T cell epitope.

6. The multiple antigen peptide system of claim 3 wherein said l acid is derived from amino acids selected from the group consist cysteine, lysine, serine and mixtures thereof.

7. The multiple antigen peptide system of claim 6 wherein said lipophilic membrane anchoring moiety comprises tripalmitoyl-S-glycerylcysteine.

8. The multiple antigen peptide system of claim 6 wherein said lipophilic membrane anchoring moiety comprises dipalmitoyl-S-glycerylcysteine.

9. The multiple antigen peptide system of claim 6 wherein said lipophilic membrane anchoring moiety comprises palmitoyl lysine.

10. The multiple antigen peptide system of claim 3 wherein said lipoamino acid is covalently attached through a peptide bond to acid polymer comprising a peptide.

11. The multiple antigen peptide system of claim 10 wherein said is a lipopeptide.

12. The multiple antigen peptide system of claim 5 wherein said epitope is covalently linked to said peptide.

13. The multiple antigen peptide system of claim 12 wherein said epitope is covalently linked in tandem to said peptide.

14. The multiple antigen peptide system of claim 5 wherein said epitope is at least seven amino acids long.

15. The multiple antigen peptide system of claim 5 wherein the T

epitope is a cytotoxic T cell epitope.

16. The multiple antigen peptide system of claim 5 wherein the T epitope is a helper T cell epitope.

17. The multiple antigen peptide system of claim 5 wherein the T epitope is derived from an **HIV**-1 protein.

18. The multiple antigen peptide system of claim 17 wherein the protein is the **HIV**-1 envelope glycoprotein.

19. The multiple antigen peptide system of claim 1 wherein said is encapsulated within a liposome.

20. The multiple antigen peptide system of claim 1 wherein said dendritic core comprises lysine.

21. The multiple antigen peptide system of claim 1 wherein said is between 10 and 40 amino acids long.

22. The multiple antigen peptide system of claim 5 further compr B cell epitope.

23. The multiple antigen peptide system of claim 22 wherein the epitope and the T cell epitope are linked on the same functional of the dendritic core.

24. The multiple antigen peptide system of claim 4 wherein said dendritic core is tetravalent.

25. The multiple antigen peptide system of claim 2 wherein said surfactant material comprises a mixture of long chain polyoxyeth and polyoxypropylenes.

26. The multiple antigen peptide system of claim 4 wherein the bifunctional unit comprises an amino acid selected from the grou consisting of cysteine, lysine, aspartic acid, glutamic acid, an ornithine.

27. The multiple antigen peptide system of claim 26 comprising e free functional groups in the dendritic core and eight peptides, each of the eight peptides is attached to each of the eight free functional groups, thereby forming an octavalent multiple peptid antigen.

28. The multiple antigen peptide system of claim 27 further comp eight covalently attached T cell epitopes.

29. The multiple antigen peptide system of claim 28 wherein the epitopes are derived from an **HIV**-1 protein.

30. The multiple antigen peptide system of claim 28 wherein the lipophilic membrane anchoring moiety comprises a constituent sel from the group consisting of a lipoamino acid, a liposome, a sap derivative alone or in admixture with cholesterol, and a suitabl surfactant material.

31. The multiple antigen peptide system of claim 30 wherein the lipophilic membrane anchoring moiety is a Iipoamino acid derived amino acid selected from the group consisting of cysteine, lysin serine and mixtures thereof.

32. The multiple antigen peptide system of claim 30 wherein the lipophilic membrane anchoring moiety is a lipoamino acid selecte the group consisting of tripahnitoyl-S-glycerylcysteine, dipalmitoyl-S-glycerylcysteine, and palmitoyl lysine.

33. A method for generating **antibodies** in a mammal, said method comprising administering to said mammal an **antibody**-generating of the multiple antigen peptide system of claim 1.

34. A method for generating **antibodies** in a mammal said method comprising administering to said mammal an **antibody**-generating of the multiple antigen peptide system of claim 32.

35. A method for generating **antibodies** in a mammal said method comprising administering to said mammal an **antibody**-generating of the multiple antigen peptide system of claim 23.

36. A method for generating **antibodies** in a mammal said method comprising administering to said mammal an **antibody**-generating of the multiple antigen peptide system of claim 5.

L12 ANSWER 16 OF 21 USPATFULL on STN
95:71261 Non-infectious **HIV** particles lacking long terminal repeats.
Haynes, Joel, Middleton, WI, United States
Klein, Michel H., Willowdale, Canada
Rovinski, Benjamin, Thornhill, Canada
Cao, Shi X., Etobicoke, Canada
Connaught Laboratories Limited, Willowdale, Canada (non-U.S. corpo
US 5439809 19950808
APPLICATION: US 1992-839751 19920615 (7) <-
PRIORITY: GB 1989-23123 19891013
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An immunogenic **HIV** retrovirus-like particle which is non-infect and non-replicating and which is useful as a candidate vaccine c against **HIV** infection, is produced by genetic engineering. A DNA molecule comprising the **HIV** genome devoid of long terminal repea

incorporated into an expression vector, which is introduced into mammalian cells for expression of the **HIV** retrovirus-like parti

CLM What is claimed is:

SEQUENCE LISTING
(1) GENERAL INFORMATION:
(iii) NUMBER OF SEQUENCES: 2
(2) INFORMATION FOR SEQ ID NO:1:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 92 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: DNA (genomic)
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
GATCTCG GACCGCCTACAATAAAAGAAAAAGGATACATATAGGAAGCCTGGCGGATGTTA60
TTTTCTTTTTCCTATGTATATCCTGGTCCCTC92
(2) INFORMATION FOR SEQ ID NO:2:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 88 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: DNA (genomic)
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
CCAGGGAGAGCATTTTATACAACAAAAAATATAATAGGAACGCGTATCGTAAAATATGTT60
GTTTTTTATATTATCCTTGCGCATCTAG 88

1. A genetically-engineered, non-infectious, non-replicating an immunogenic **HIV** retrovirus-like particle, produced by: incorpora into an expression vector a DNA molecule comprising the **HIV** gen devoid of long terminal repeats, introducing the expression vect mammalian cells, and expressing said DNA molecule in said mammal cells to produce said **HIV** retrovirus-like particle.

2. The particle of claim 1 which is deficient in primer binding

3. The particle of claim 1 which is deficient in Integrase and V proteins.

4. The particle of claim 1 wherein a V3 neutralizing epitope fro heterologous **HIV** isolate is inserted into a Bgl II site of the envelope glycoprotein.

5. A method for obtaining a non-infectious, non-replicating, im **HIV** retrovirus-like particle by genetic engineering, which compr incorporating into an expression vector a DNA molecule comprisin **HIV** genome devoid of long terminal repeats, introducing the expr

vector into mammalian cells, and expressing said DNA molecule in mammalian cells to produce **HIV** retrovirus-like particles.

6. The method of claim 5 wherein said expression vector is plasm pHIV-SV.

7. The method of claim 5 wherein said expression vector is plasm pHIV-CHO-SV.

8. The method of claim 5 wherein said expression vector is plasm pHIV-Ad.

9. The method of claim 5 wherein said expression vector is plasm pMT-**HIV**.

10. The method of claim 5 wherein said expression vector is plas pV3Bg.

11. The method of claim 6 wherein said **HIV** genome further is de in primer binding site.

12. The method of claim 11 wherein said **HIV** genome further is deficient in genomic elements coding for Intergrass and Vif.

13. The method of claim 5 wherein said DNA molecule incorporated the expression vector is provided by a DNA molecule containing t characteristic genetic elements present in the SacI to XhoI frag spanning nucleotides 678 to 8944 of the genome of **HIV**-1 BRU iso

L12 ANSWER 17 OF 21 USPATFULL on STN
95:3945 Molecular clones of bovine immunodeficiency-like virus.
Gonda, Matthew A., Walkersville, MD, United States
The United States of America as represented by the Secretary of the Department of Health and Human Services, Washington, DC, United Sta (U.S. government)
US 5380830 19950110
APPLICATION: US 1992-980324 19921124 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Biologically active proviral molecular clones of bovine immunodeficiency-like virus and cell lines infected with the sam been prepared. Various utilities of the clones are described.
CLM What is claimed is:
1. Isolated and purified BIV proviral DNA with the nucleotide se as shown in FIGS. 6A-6D.

2. An isolated and purified, infectious, proviral molecular clon which is clone BIV106.

3. An isolated and purified, infectious, proviral molecular clon which is clone BIV127.

L12 ANSWER 18 OF 21 USPATFULL on STN
94:44555 Drosophila cell lines expressing genes encoding MHC class I an and B2-microglobulin and capable of assembling empty complexes and of making said cell lines.
Peterson, Per A., LaJolla, CA, United States
Jackson, Michael, Del Mar, CA, United States
Langlade-Demoyen, Pierre, Del Mar, CA, United States
Scripps Research Institute, LaJolla, CA, United States (U.S. corpor
US 5314813 19940524
APPLICATION: US 1992-841662 19920219 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a rational, elegant means of pr loading and using Class I molecules to specifically activate CD8 in vitro, and their therapeutic applications in the treatment of variety of conditions, including cancer, tumors or neoplasias, a as viral, retroviral, autoimmune, and autoimmune-type diseases. present invention also relates to vectors, cell lines, recombina molecules encoding human β2 microglobulin or Class I MHC molecul in soluble and insoluble form, and methods of producing same.
CLM What is claimed is:
1. A stable cell line comprising: a human class I MHC gene, oper linked to an inducible promoter, capable of expressing a human c MHC antigen on induction of said promoter; a human β-2-microglobulin gene, operably linked to a second inducible promot capable of expressing a human β-2-microglobulin protein, on induction of said second promoter; wherein said ell is capable o assembling said MHC class I antigen and said β-2-microglobulin protein into empty complexes, and transporting and anchoring sai complexes to the surface of the cell in sufficient numbers to ac population of T-cell lymphocytes against a selected peptide when peptide is bound to said complexes.

2. A cell line of claim 1, wherein said first and second promote metallothionein promoters.

3. A cell line of claim 1, wherein said human class I MHC gene a human β-2-microglobulin gene are integrated in the genome of sai cell line.

4. A cell line of claim 3, wherein said human class I MHC gene a human β-2-microglobulin gene are operably linked to polyadenylat sequences.

5. A cell line of claim 4, wherein said human class I MHC antige

B27 or A2.1.

6. A cell line of claim 5, wherein said peptide is derived from **human immunodeficiency virus** protein.

7. A method of producing a cell line of claim 1 comprising: esta a culture of Drosophila cells; transfecting said culture with an expressible human class I MHC gene operably linked to an inducib promoter; and transfecting said culture with an expressible huma β2-microglobulin gene operably linked to a second inducible promoter.

8. The method of claim 7 wherein said human class I MHC gene and human β-2-M gene are/is operably linked to a transcribable polyadenylation site.

9. The method of claim 7 wherein said human class I MHC gene and human β-2-M gene are/is inserted into a pRmHa-3 vector.

L12 ANSWER 19 OF 21 USPATFULL on STN
93:52501 Characterization of replication competent human immunodeficien 2 proviral clone **HIV**-$2_{SBL/ISY}$.
Franchini, Genoveffa, Washington, DC, United States
Wong-Staal, Flossie, San Diego, CA, United States
Gallo, Robert, Bethesda, MD, United States
United States of America, Washington, DC, United States (U.S. gover
US 5223423 19930629
APPLICATION: US 1989-331212 19890331 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A complete genomic clone of **HIV**-2 designated **HIV**-$2_{SBL/ISY}$ was cloned from DNA of the neoplastic human cell line HUT78 infected the **HIV**-$2_{SBL6669}$ viral isolate. The clone was sequenced and the sequence compared with those of known **HIV**-2 isolates. The inven advantageous for it provides an animal model for the study of **H** infection in man.
CLM What is claimed is:
1. An isolated and purified replication competent **HIV**-2 provira designated **HIV**-$2_{SBL/ISY}$.

2. The clone of claim 1 wherein said clone has the restriction p as shown in FIG. 1.

3. An isolated and purified DNA segment having the nucleotide se or a nucleotide sequence encoding one or more of the amino acid sequences as shown in FIG. 5.

L12 ANSWER 20 OF 21 USPATFULL on STN
93:31326 Gene expressing VPT protein and vectors expressing this protei
Haseltine, William A., Cambridge, MA, United States
Cohen, Eric, Brighton, MA, United States
Dana Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5204258 19930420
APPLICATION: US 1989-360847 19890602 (7) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Viral protein T from **Human Immunodeficiency Virus** Type 1 (**HIV**-1 is disclosed. The protein has a molecular weight of approximatel and is produced by the vpt gene of **HIV**-1. This protein is antig Vectors capable of expressing the vpt protein are also described
CLM What is claimed is:
1. A DNA segment containing a functional vpt gene but not the en **HIV** genome, wherein the DNA segment will not express functional protein having the ability to trans-activate.

2. A vector containing: (a) a nucleotide segment containing a su number of nucleotides corresponding to a region extending from t initiation codon and extending through the T open reading frame **HIV** genome, to express viral protein T, wherein the T open readi frame is in the same reading frame as the tat initiation codon w the vector will not express functional tat protein having the ab trans-activate, and wherein the vector does not contain the enti genome; and (b) a protomer upstream of the nucleotide segment.

3. The vector of claim 2, wherein the nucleotide segment is DNA.

4. The vector of claim 2, wherein the nucleotide segment is RNA.

5. The vector of claim 3, wherein the promoter is a viral promot the vector also contains an enhancer and polyadenylation sequenc

6. The vector of claim 2 wherein the **HIV** genome is **HIV**-1.

7. A cell line transformed by the vector of claim 2.

L12 ANSWER 21 OF 21 USPATFULL on STN
92:46989 Multilayer solid phase immunoassay support and method of use.
Chan, Emerson W., Libertyville, IL, United States
Schulze, Werner, Waukegan, IL, United States
Robey, William G., Libertyville, IL, United States
Braun, Brian P., Gurnee, IL, United States
Daluga, Cynthia K., Lindenhurst, IL, United States
Kapsalis, Andreas A., Evanston, IL, United States
Knigge, Kevin M., Gurnee, IL, United States
Stephens, John E., Chicago, IL, United States

Stojak, II, Joseph J., Waukegan, IL, United States
Vallaris, David S., Grayslake, IL, United States
Durley, deceased, Benton A., late of Antioch, IL, United States by W. Durley; executrix
Defreese, James D., Lindenhurst, IL, United States
Merkh, Carl W., Lindenhurst, IL, United States
Abbott Laboratories, Abbott Park, IL, United States (U.S. corporati
US 5120662 19920609
APPLICATION: US 1990-532489 19900604 (7) <-
DOCUMENT TYPE: Utility; Granted.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An immunoassay which is capable of simultaneously detecting any number of antigens of one infectious agent, or combinations of a of several infectious agents, or any desired number of immunoglo of one infectious agent, or combinations of immunoglobulins of s infectious agents on a single solid support. A test sample is co with a solid support on which one or more antigens are immobiliz discrete test sites. Antigen-**antibody** complexes are formed and detected on the solid support.

CLM What is claimed is:

1. An immunoassay to simultaneously detect the presence or amoun more than one **antibody** which may be present in a test sample, sa assay comprising: a. contacting a test sample of a species with solid support backed by inert plastic on which said porous solid more than one antigen is immobilized each on its own discrete te which is isolated by a surrounding moat created by a depression extends substantially through the porous solid support and which porous solid support was treated with a blocking reagent after s antigens were immobilized, for a time and under conditions suffi form antigen-**antibody** complexes; b. contacting said antigen-**ant** complexes with a conjugated signal generating system comprising anti-species **antibody** which anti-species **antibody** binds to the antigen-**antibody** complexes and which **antibody** is conjugated to detectable label which is capable of yielding a quantitatively measurable signal correlated to the signal of a normal negative sample to indicate **antibody** positive or **antibody** negative for t test sample; and c. detecting the presence of said antigen-**anti** complexes on said porous solid support by measuring the generate signal.

2. The immunoassay of claim 1 wherein the porous solid support i nitrocellulose.

3. The immunoassay of claim 1 wherein the discrete test site is immunodot blot.

4. The immunoassay of claim 1 wherein the **antibody** detected is selected from the group consisting of anti-**HIV**-1 **antibody**, anti-**HIV**-2 **antibody** and anti-HCV **antibody**.

5. The immunoassay of claim 1 wherein the **antibody** detected is anti-**HIV**-1 **antibody**.

6. The immunoassay of claim 1 wherein the **antibody** detected is anti-**HIV**-2 **antibody**.

7. The immunoassay of claim 1 wherein the **antibody** detected is anti-HCV **antibody**.

8. The immunoassay of claim 1 wherein the solid support is conta with a blocking reagent prior to contacting the solid support wi test sample.

9. The immunoassay of claim 1 wherein said label is selected fro group consisting of an enzyme, a luminescent label and a chemiluminescent label.

10. The immunoassay of claim 1 wherein said signal generating sy a biotin-anti-biotin amplifying system.

11. An immunoassay to simultaneously detect the presence or amou more than one antigen which may be present in a test sample, sai comprising: a. contacting a test sample with a porous solid supp backed by inert plastic on which said porous solid support more **antibody** is immobilized each on its own discrete test site which isolated by a surrounding moat created by a depression which ext substantially through the porous solid support and which said po solid support was treated with a blocking reagent after said ant were immobilized, for a time and under conditions sufficient to antigen-**antibody** complexes; b. contacting said antigen-**antibody** complexes with a conjugated signal generating system comprising one anti-antigen **antibody** which **antibody** binds to the antigen-**antibody** complexes and which **antibody** is conjugated to detectable label which is capable of yielding a quantitatively measurable signal correlated to the signal of a normal negative sample to indicate antigen positive or antigen negative for the sample; and c. detecting the presence of said antigen-**antibody** complexes on said porous solid support by measuring the generate signal.

12. The immunoassay of claim 11 wherein the porous solid support nitrocellulose.

13. The immunoassay of claim 11 wherein the discrete test site i immunodot blot.

14. The immunoassay of claim 11 wherein the antigen detected is from the group consisting of **HIV**-1, **HIV**-2 and HCV.

15. The immunoassay of claim 11 wherein the antigen detected is

16. The immunoassay of claim 11 wherein the antigen detected is

17. The immunoassay of claim 11 wherein the antigen detected is

18. The immunoassay of claim 11 wherein the solid support is con with a blocking reagent prior to contacting the solid support wi test sample.

19. The immunoassay of claim 11 wherein said label is selected f group consisting of an enzyme, a luminescent label and a chemiluminescent label.

20. The immunoassay of claim 11 wherein said signal generating s a biotin-anti-biotin amplifying system.

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=> d his

     (FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

     FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
L1             1 S US4808536/PN
L2             1 S US5001230/PN
L3             1 S US5874225/PN
                 E WEINER DAVID B/IN
L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL
L9         38258 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L10          728 S L9 AND (VPR OR VIRAL PROTEIN R)
L11          675 S L10 AND ANTIBOD?
L12           21 S L11 AND AY<1994

=> s l10 and (Vpr/clm or viral protein R/clm)
           156 VPR/CLM
         11272 VIRAL/CLM
         57583 PROTEIN/CLM
        298387 R/CLM
             4 VIRAL PROTEIN R/CLM
                 ((VIRAL(W)PROTEIN(W)R)/CLM)
L13          141 L10 AND (VPR/CLM OR VIRAL PROTEIN R/CLM)

=> s l13 and antibod?/clm
         36027 ANTIBOD?/CLM
L14          40 L13 AND ANTIBOD?/CLM
```

```
=> s l14 and ay<1994
       1977691 AY<1994
L15           2 L14 AND AY<1994

=> d l15,cbib,1-2

L15  ANSWER 1 OF 2  USPATFULL on STN
2005:471 VPR function and activity.
    Weiner, David B., Merion, PA, United States
    Levy, David Nathan, Philadelphia, PA, United States
    Refaeli, Yosef, Philadelphia, PA, United States
    The Trustees of the University of Pennsylvania, Philadelphia, PA, U
    States (U.S. corporation)The Wistar Institute, Philadelphia, PA, Un
    States (U.S. corporation)
    US 6838236 B1 20050104
    APPLICATION: US 1993-167608  19931215 (8)                          <-
    DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15  ANSWER 2 OF 2  USPATFULL on STN
1999:24450 Identification of compounds that modulate HIV-1 vpr protein
       .
    Weiner, David B., Merion, PA, United States
    Levy, David Nathan, Philadelphia, PA, United States
    Trustees of The University of Pennsylvania, Philadelphia, PA, Unite
    (U.S. corporation)The Wistar Institute, Philadelphia, PA, United St
    (U.S. corporation)
    US 5874225 19990223
    APPLICATION: US 1993-19601  19930219 (8)                           <-
    DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


=> d his

     (FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

     FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
L1             1 S US4808536/PN
L2             1 S US5001230/PN
L3             1 S US5874225/PN
                 E WEINER DAVID B/IN
L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL
L9         38258 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L10          728 S L9 AND (VPR OR VIRAL PROTEIN R)
L11          675 S L10 AND ANTIBOD?
```

```
L12          21 S L11 AND AY<1994
L13         141 S L10 AND (VPR/CLM OR VIRAL PROTEIN R/CLM)
L14          40 S L13 AND ANTIBOD?/CLM
L15           2 S L14 AND AY<1994

=> s l13 and ay<1994
       1977691 AY<1994
L16          6 L13 AND AY<1994

=> s l16 not l15
L17          4 L16 NOT L15

=> d l17,cbib,1-4

L17  ANSWER 1 OF 4  USPATFULL on STN
2000:109568 Antisense viruses and antisense-ribozyme viruses.
    Hu, Wen, Honolulu, HI, United States
    Wang, Jie, Honolulu, HI, United States
    Inpax, Inc., Honolulu, HI, United States (U.S. corporation)
    US 6107062 20000822
    APPLICATION: US 1992-921104  19920730 (7)                          <-
    DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17  ANSWER 2 OF 4  USPATFULL on STN
1998:75745 DNA fragments obtained from a novel human immunodeficiency
    virus designated LAV_MAL.
    Alizon, Marc, Paris, France
    Sonigo, Pierre, Paris, France
    Wain-Hobson, Simon, Montigny les Bretonneux, France
    Montagnier, Luc, Le Plessis Robinson, France
    Institut Pasteur, Paris, France (non-U.S. corporation)
    US 5773602 19980630
    APPLICATION: US 1993-154397  19931118 (8)                          <-
    PRIORITY: FR 1986-401380  19860623
    DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17  ANSWER 3 OF 4  USPATFULL on STN
97:106928 Nucleotide sequences derived from the genome of retroviruses
    HIV-1, HIV-2 and SIV type, and their uses in particular for the
    amplification of the genomes of these retroviruses and for the in v
    diagnosis of the disease due to these viruses.
    Moncany, Maurice, Paris, France
    Montagnier, Luc, Le Plessis-Robinson, France
    Institut Pasteur, France (non-U.S. corporation)Institut National de
    Sante et de la Recherche Medicale, France (non-U.S. corporation)
    US 5688637 19971118
    APPLICATION: US 1993-160465  19931202 (8)                          <-
    PRIORITY: FR 1989-7354  19890602
```

FR 1989-12371 19890920
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 4 OF 4 USPATFULL on STN
97:81129 Vectors containing **HIV** packaging sequences, packaging defectiv **HIV** vectors, and uses thereof.
Sodroski, Joseph G., Medford, MA, United States
Haseltine, William A., Cambridge, MA, United States
Poznansky, Mark, Cambridge, MA, United States
Lever, Andrew, Pinner Middlesex, England
Gottlinger, Heinrich, Munich, Germany, Federal Republic of
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corpo
US 5665577 19970909
APPLICATION: US 1993-152902 19931115 (8) <-
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l17,cbib,ab,clm,2

L17 ANSWER 2 OF 4 USPATFULL on STN
1998:75745 DNA fragments obtained from a novel **human immunodeficiency virus** designated LAV_{MAL}.
Alizon, Marc, Paris, France
Sonigo, Pierre, Paris, France
Wain-Hobson, Simon, Montigny les Bretonneux, France
Montagnier, Luc, Le Plessis Robinson, France
Institut Pasteur, Paris, France (non-U.S. corporation)
US 5773602 19980630
APPLICATION: US 1993-154397 19931118 (8) <-
PRIORITY: FR 1986-401380 19860623
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel **human immunodeficiency virus** type 1 (**HIV**-1) isolate, designated lymphadenopathy-associated virus strain MAL, or LAV_{MA} was molecularly cloned and characterized. Nucleotide sequence an demonstrated that the viral genome of LAV_{MAL} is 9229 nucleotides long. This retrovirus contains the canonical gag, pol, and env g well as ancillary genes encoding Vif (or Q), **Vpr** (or R), Tat (o and Nef (or F). This virus differs significantly, at both the nu and amino acid sequence levels, from prototypical **HIV** isolates HTLV-III, LAV_{BRU}, and ARV). DNA fragments corresponding to the various gene products and regulatory regions are disclosed. Thes fragments are useful, inter alia, as probes in diagnostic assays the generation of recombinant proteins.

CLM What is claimed is:
1. A DNA fragment having a nucleotide sequence selected from the consisting of: a sequence having nucleotides 1 to 96, which is t

terminal repeat R region of LAV_{MAL} ; a sequence having nucleotid 97 to 179, which is the 5' long terminal repeat U5 region of LAV ; a sequence having nucleotides 8676 to 9133, which is the 3' lo terminal repeat U3 region of LAV_{MAL} ; a sequence having nucleoti 9134 to 9229, which is the 3' long terminal repeat U3 region of LAV_{MAL} ; a sequence having nucleotides 5405 to 5620, which is th tat coding region of LAV_{MAL} ; a sequence having nucleotides 5134 5421, which is the **vpr** coding region of LAV_{MAL} ; a sequence having nucleotides 8380 to 9006, which is the nef coding region LAV_{MAL} ; a sequence having nucleotides 350 to 1864, which is the gag coding region of LAV_{MAL} ; a sequence having nucleotides 1663 4668, which is the pol coding region of LAV_{MAL} ; a sequence havi nucleotides 5799 to 8375, which is the env coding region of LAV ; a sequence having nucleotides 764 to 1501, which is the gag p2 region of LAV_{MAL} ; a sequence having nucleotides 1502 to 1864, which is the gag p13 coding region of LAV_{MAL} ; a sequence having nucleotides 5799 to 5885, which corresponds to amino acids 1-33 env coding region of LAV_{MAL} ; a sequence having nucleotides 5886 7337, which corresponds to amino acids 34 to 530 of the gp110 en region of LAV_{MAL} ; a sequence having nucleotides 5895 to 6176, which corresponds to amino acids 37 to 130 of the env coding reg LAV_{MAL} ; a sequence having nucleotides 6399 to 6635, which corresponds to amino acids 211 to 289 of the env coding region o LAV_{MAL} ; a sequence having nucleotides 7212 to 7337, which corresponds to amino acids 488 to 530 of the env coding region o LAV_{MAL} ; a sequence having nucleotides 7215 to 7604, which corresponds to amino acids 490 to 620 of the env coding region o LAV_{MAL} ; and a sequence having nucleotides 7782 to 7844, which corresponds to amino acids 680 to 700 of the env coding region o LAV_{MAL}.

2. The DNA fragment as claimed in claim 1, wherein said fragment operatively linked to a promoter sequence.

3. A DNA fragment as claimed in claim 1, wherein said fragment h nucleotide sequence having nucleotides 1 to 96, which is the lon terminal repeat R region of LAV_{MAL}.

4. A DNA fragment as claimed in claim 1, wherein said fragment h sequence having nucleotides 97 to 179, which is the 5' long term repeat U5 region of LAV_{MAL}.

5. A DNA fragment as claimed in claim 1, wherein said fragment h

sequence having nucleotides 8676 to 9133, which is the 3' long t repeat U3 region of LAV_{MAL}.

6. A DNA fragment as claimed in claim 1, wherein said fragment h sequence having nucleotides 9134 to 9229, which is the 3' long t repeat U3 region of LAV_{MAL}.

7. A DNA fragment as claimed in claim 1, wherein said fragment h sequence having nucleotides 5405 to 5620, which is the tat codin of LAV_{MAL}.

8. A DNA fragment as claimed in claim 1, wherein said fragment h sequence having nucleotides 5134 to 5421, which is the **vpr** codi region of LAV_{MAL}.

9. A DNA fragment as claimed in claim 1, wherein said fragment h sequence having nucleotides 8380 to 9006, which is the nef codin of LAV_{MAL}.

10. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 350 to 1864, which is the gag coding of LAV_{MAL}.

11. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 1663 to 4668, which is the pol codin of LAV_{MAL}.

12. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 5799 to 8375, which is the env codin of LAV_{MAL}.

13. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 764 to 1501, which is the gag p25 co region of LAV_{MAL}.

14. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 1502 to 1864, which is the gag p13 c region of LAV_{MAL}.

15. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 5799 to 5885, which corresponds to a acids 1-33 of the env coding region of LAV_{MAL}.

16. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 5886 to 7337, which corresponds to a acids 34 to 530 of the gp110 env coding region of LAV_{MAL}.

17. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 5895 to 6176, which corresponds to a acids 37 to 130 of the env coding region of LAV_{MAL}.

18. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 6399 to 6635, which corresponds to a acids 211 to 289 of the env coding region of LAV_{MAL}.

19. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 7212 to 7337, which corresponds to a acids 488 to 530 of the env coding region of LAV_{MAL}.

20. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 7215 to 7604, which corresponds to a acids 490 to 620 of the env coding region of LAV_{MAL}.

21. A DNA fragment as claimed in claim 1, wherein said fragment sequence having nucleotides 7782 to 7844, which corresponds to a acids 680 to 700 of the env coding region of LAV_{MAL}.

22. A recombinant vector comprising a DNA fragment of any one of 1-21.

23. A transformed host comprising the recombinant vector of clai

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=> d his

     (FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

     FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
L1             1 S US4808536/PN
L2             1 S US5001230/PN
L3             1 S US5874225/PN
                 E WEINER DAVID B/IN
L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL
L9         38258 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L10          728 S L9 AND (VPR OR VIRAL PROTEIN R)
L11          675 S L10 AND ANTIBOD?
L12           21 S L11 AND AY<1994
L13          141 S L10 AND (VPR/CLM OR VIRAL PROTEIN R/CLM)
L14           40 S L13 AND ANTIBOD?/CLM
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L15             2 S L14 AND AY<1994
L16             6 S L13 AND AY<1994
L17             4 S L16 NOT L15

=> file wpids
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   172.84     173.05

FILE 'WPIDS' ENTERED AT 08:20:18 ON 04 APR 2005
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    PLEASE CHECK:
http://thomsonderwent.com/support/dwpiref/reftools/classification/code
    FOR DETAILS. <<<

=> e weiner david b/in
E1              8     WEINER D P/IN
E2              2     WEINER D S/IN
E3              0 --> WEINER DAVID B/IN
E4              3     WEINER E/IN
E5              1     WEINER E J/IN
E6              1     WEINER E R/IN
E7              1     WEINER E S/IN
E8              2     WEINER E T/IN
E9              7     WEINER F/IN
E10             1     WEINER F M/IN
E11             9     WEINER G/IN
E12             2     WEINER G A/IN
```

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=> e weiner d b/in
E1          18     WEINER D/IN
E2           2     WEINER D A/IN
E3          66 --> WEINER D B/IN
E4           1     WEINER D D/IN
E5           2     WEINER D L/IN
E6           2     WEINER D M/IN
E7           8     WEINER D P/IN
E8           2     WEINER D S/IN
E9           3     WEINER E/IN
E10          1     WEINER E J/IN
E11          1     WEINER E R/IN
E12          1     WEINER E S/IN

=> s e3
L18         66 "WEINER D B"/IN

=> s l18 and (Vpr or viral protein R)
           189 VPR
         25368 VIRAL
        125679 PROTEIN
        516594 R
            10 VIRAL PROTEIN R
                 (VIRAL(W)PROTEIN(W)R)
L19         10 L18 AND (VPR OR VIRAL PROTEIN R)

=> d l19,bib,1-10

L19  ANSWER 1 OF 10  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN   2003-449457 [42]    WPIDS
DNN  N2003-358565        DNC C2003-119425
TI   Identifying compounds that inhibit HIV Vpr binding to apoptosis i
     factor (AIF), useful for treating cancer, inflammatory disease or
     autoimmune disease, comprises contacting HIV Vpr and AIF in the p
     of a test compound.
DC   B04 D16 S03
IN   MUTHUMANI, K; WEINER, D B
PA   (UYPE-N) UNIV PENNSYLVANIA; (MUTH-I) MUTHUMANI K; (WEIN-I) WEINER
CYC  101
PI   WO 2003040415   A1 20030515 (200342)* EN   11
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
            NL OA PT SD SE SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH
            RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU
            ZW
     EP 1397520      A1 20040317 (200420)  EN
```

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK RO SE SI TR
AU 2002310158 A1 20030519 (200464)
US 2005026138 A1 20050203 (200511)
ADT WO 2003040415 A1 WO 2002-US16731 20020528; EP 1397520 A1 EP 2002-20020528, WO 2002-US16731 20020528; AU 2002310158 A1 AU 2002-3101 20020528; US 2005026138 A1 Provisional US 2001-293570P 20010525, 2002-US16731 20020528, US 2004-478742 20040802
FDT EP 1397520 A1 Based on WO 2003040415; AU 2002310158 A1 Based on WO 2003040415
PRAI US 2001-293570P 20010525; US 2004-478742 20040802

L19 ANSWER 2 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 2003-381674 [36] WPIDS
DNC C2003-101425
TI Treatment of sepsis and systemic inflammatory response syndrome in administration of a composition comprising **viral protein R** of HIV its fragment or nucleic acid encoding the protein or its fragment.
DC B04 B05 D16
IN KARUPPIAH, M; **WEINER, D B**; MUTHAMANI, K; MUTHUMANI, K
PA (UYPE-N) UNIV PENNSYLVANIA; (MUTH-I) MUTHUMANI K; (WEIN-I) WEINER
CYC 101
PI WO 2003030827 A2 20030417 (200336)* EN 18
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZW
EP 1453548 A2 20040908 (200459) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU MK NL PT RO SE SI SK TR
AU 2002362753 A1 20030422 (200461)
US 2005042202 A1 20050224 (200515)
ADT WO 2003030827 A2 WO 2002-US32084 20021007; EP 1453548 A2 EP 2002-20021007, WO 2002-US32084 20021007; AU 2002362753 A1 AU 2002-3627 20021007; US 2005042202 A1 Provisional US 2001-327270P 20011005, 2002-US32084 20021007, US 2004-491800 20041007
FDT EP 1453548 A2 Based on WO 2003030827; AU 2002362753 A1 Based on WO 2003030827
PRAI US 2001-327270P 20011005; US 2004-491800 20041007

L19 ANSWER 3 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 2003-167364 [16] WPIDS
DNN N2003-132260 DNC C2003-043493
TI Non-cellular particle (e.g. of human immunodeficiency virus), for delivery, prophylaxis against viruses and cancer, and treating aut

diseases, comprises a nucleic acid and/or a fusion protein having ligand.

DC B04 C06 D16 P33

IN MUTHAMANI, K; RAMANATHAN, M P; **WEINER, D B**; ZHANG, D; MUTHUMANI, RAMANTHAN, M P

PA (UYPE-N) UNIV PENNSYLVANIA; (MUTH-I) MUTHUMANI K; (RAMA-I) RAMANT (WEIN-I) WEINER D B; (ZHAN-I) ZHANG D

CYC 100

PI WO 2002100317 A2 20021219 (200316)* EN 31
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZW
AU 2002329176 A1 20021223 (200452)
US 2005054104 A1 20050310 (200519)

ADT WO 2002100317 A2 WO 2002-US16681 20020528; AU 2002329176 A1 AU 200 20020528; US 2005054104 A1 Provisional US 2001-293683P 20010525, 2002-US16681 20020528, US 2004-478896 20040830

FDT AU 2002329176 A1 Based on WO 2002100317

PRAI US 2001-293683P 20010525; US 2004-478896 20040830

L19 ANSWER 4 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text

AN 2001-662940 [76] WPIDS

DNC C2001-194732

TI Delivering polypeptide for gene therapy comprises administering ve comprising a nucleic acid encoding **viral protein R** (from HIV), it fragment or nucleic acid encoding the protein.

DC B04 D16

IN AYYAVOO, V; MUTHUMANI, K; **WEINER, D B**

PA (UYPE-N) UNIV PENNSYLVANIA; (MUTH-I) MUTHUMANI K; (WEIN-I) WEINER

CYC 96

PI WO 2001074163 A1 20011011 (200176)* EN 61
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001049576 A 20011015 (200209)
US 2004028651 A1 20040212 (200412)
EP 1404705 A1 20040407 (200425) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK RO SE SI TR

ADT WO 2001074163 A1 WO 2001-US10028 20010329; AU 2001049576 A AU 2001 20010329; US 2004028651 A1 WO 2001-US10028 20010329, US 2002-3112 20021213; EP 1404705 A1 EP 2001-922815 20010329, WO 2001-US10028

FDT AU 2001049576 A Based on WO 2001074163; EP 1404705 A1 Based on WO 2001074163
PRAI US 2000-231141P 20000908; US 2000-193495P 20000331; US 2002-311260 20021213

L19 ANSWER 5 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1999-277596 [23] WPIDS
CR 1999-181154 [15]
DNC C1999-081631
TI Human **Vpr** interacting protein for, e.g. treatment of cancer.
DC B04 D16
IN AYYAVOO, V; MAHALINGAM, S; PATEL, M; **WEINER, D B**
PA (UYPE-N) UNIV PENNSYLVANIA; (AYYA-I) AYYAVOO V; (MAHA-I) MAHALING (PATE-I) PATEL M; (WEIN-I) WEINER D B
CYC 83
PI WO 9919359 A1 19990422 (199923)* EN 58
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT US UZ VN YU ZW
AU 9897980 A 19990503 (199937)
EP 1021464 A1 20000726 (200037) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU NL PT SE
KR 2001040257 A 20010515 (200167)
JP 2001522582 W 20011120 (200204) 78
AU 745235 B 20020314 (200231)
US 6448078 B1 20020910 (200263)
US 2003143735 A1 20030731 (200354)
ADT WO 9919359 A1 WO 1998-US21432 19981009; AU 9897980 A AU 1998-9798 19981009; EP 1021464 A1 EP 1998-952230 19981009, WO 1998-US21432 KR 2001040257 A KR 2000-703859 20000410; JP 2001522582 W WO 1998-19981009, JP 2000-515930 19981009; AU 745235 B AU 1998-97980 1998 6448078 B1 WO 1998-US21432 19981009, US 2000-529245 20001017; US 2003143735 A1 Cont of WO 1998-US21432 19981009, Cont of US 2000-5 20001017, US 2003-208338 20030227
FDT AU 9897980 A Based on WO 9919359; EP 1021464 A1 Based on WO 991935 2001522582 W Based on WO 9919359; AU 745235 B Previous Publ. AU 98 Based on WO 9919359; US 6448078 B1 Based on WO 9919359; US 2003143 Cont of US 6448078
PRAI US 1997-949202 19971010; US 2000-529245 20001017; US 2003-208338 20030227

L19 ANSWER 6 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1999-181154 [15] WPIDS
CR 1999-277596 [23]
DNN N1999-132965 DNC C1999-052973

TI Conjugate composition comprising HIV-1 **Vpr** protein fragment - us inhibit cell proliferation, and treating hyperproliferative diseas
DC B04 D16 S03
IN AYYAVOO, V; KIEBER-EMMONS, T; MAHALINGAM, S; PATEL, M; **WEINER, D** MAHALINGHAM, S; WILLIAMS, W V
PA (UYPE-N) UNIV PENNSYLVANIA
CYC 83
PI WO 9909412 A1 19990225 (199915)* EN 64
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT US UZ VN YU ZW
AU 9887838 A 19990308 (199929)
US 6060587 A 20000509 (200030)
EP 1012603 A1 20000628 (200035) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6087486 A 20000711 (200037)#
US 6172201 B1 20010109 (200104)
AU 753031 B 20021003 (200301)
EP 1012603 B1 20041027 (200471) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6818627 B1 20041116 (200475)
DE 69827284 E 20041202 (200479)
ADT WO 9909412 A1 WO 1998-US16890 19980814; AU 9887838 A AU 1998-8783 19980814; US 6060587 A CIP of US 1996-593695 19960129, Provisional 1997-55754P 19970814, US 1997-949202 19971010; EP 1012603 A1 EP 1998-939404 19980814, WO 1998-US16890 19980814; US 6087486 A Cont 1996-593695 19960129, US 1998-14877 19980128; US 6172201 B1 CIP of 1996-593695 19960129, Provisional US 1997-55754P 19970814, Cont o 1997-949202 19971010, US 1999-418175 19991013; AU 753031 B AU 1998 19980814; EP 1012603 B1 EP 1998-939404 19980814, WO 1998-US16890 US 6818627 B1 Provisional US 1997-55754P 19970814, WO 1998-US1689 19980814, US 2000-485421 20001005; DE 69827284 E DE 1998-627284 1 EP 1998-939404 19980814, WO 1998-US16890 19980814
FDT AU 9887838 A Based on WO 9909412; EP 1012603 A1 Based on WO 990941 753031 B Previous Publ. AU 9887838, Based on WO 9909412; EP 101260 Based on WO 9909412; US 6818627 B1 Based on WO 9909412; DE 6982728 Based on EP 1012603, Based on WO 9909412
PRAI US 1997-55754P 19970814; US 1996-593695 19960129; US 1997-949202 19971010; US 1998-14877 19980128; US 1999-418175 19991013; US 2000-485421 20001005

L19 ANSWER 7 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1996-188141 [19] WPIDS
DNC C1996-060041
TI Inhibition of cell proliferating and lymphocyte activation - by c cells with HIV **vpr** protein or **vpr**-encoding nucleic acid.

DC B04 D16
IN AYYAROO, V; LEVY, D N; REFAELI, Y; **WEINER, D B**; WILLIAMS, W V; AY
PA (APOL-N) APOLLON INC; (UYPE-N) UNIV PENNSYLVANIA; (LEVY-I) LEVY D (REFA-I) REFAELI Y; (WEIN-I) WEINER D B
CYC 64
PI WO 9608970 A1 19960328 (199619)* EN 66
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SG SI SK TJ TM TT UA UG US UZ VN
AU 9537276 A 19960409 (199629)
US 5763190 A 19980609 (199830)
US 6667157 B1 20031223 (200408)
US 2004259827 A1 20041223 (200504)
ADT WO 9608970 A1 WO 1995-US12344 19950921; AU 9537276 A AU 1995-3727 19950921; US 5763190 A US 1994-309644 19940921; US 6667157 B1 CIP 1994-309644 19940921, WO 1995-US12344 19950921, US 1997-809186 19 US 2004259827 A1 Cont of WO 1995-US12344 19950921, Cont of US 1997 19970624, US 2003-734024 20031211
FDT AU 9537276 A Based on WO 9608970; US 6667157 B1 CIP of US 5763190, on WO 9608970; US 2004259827 A1 Cont of US 6667157
PRAI US 1994-309644 19940921; US 1997-809186 19970624; US 2003-734024 20031211

L19 ANSWER 8 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1996-020283 [02] WPIDS
DNN N1996-016947 DNC C1996-006945
TI Method of treating H.I.V. infection - involves using compounds whi prevent H.I.V. replication by blocking interaction of vapour with target rip-1.
DC B04 D16 S03
IN REFAELI, Y; **WEINER, D B**; LEVY, D M; LEVY, D N
PA (UYPE-N) UNIV PENNSYLVANIA
CYC 65
PI WO 9531901 A1 19951130 (199602)* EN 65
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SG SI SK TJ TM TT UA UG US UZ VN
AU 9525880 A 19951218 (199611)
EP 759693 A1 19970305 (199714) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
US 5639598 A 19970617 (199730) 15
AU 690694 B 19980430 (199829)
US 5780220 A 19980714 (199835)
EP 759693 B1 20031126 (200402) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69532197 E 20040108 (200411)
ES 2210291 T3 20040701 (200444)

ADT WO 9531901 A1 WO 1995-US5981 19950517; AU 9525880 A AU 1995-25880 19950511; EP 759693 A1 EP 1995-920426 19950517, WO 1995-US5981 19 US 5639598 A US 1994-246177 19940519; AU 690694 B AU 1995-25880 1 US 5780220 A CIP of US 1994-246177 19940519, US 1995-382873 19950 759693 B1 EP 1995-920426 19950517, WO 1995-US5981 19950517; DE 69 DE 1995-632197 19950517, EP 1995-920426 19950517, WO 1995-US5981 ES 2210291 T3 EP 1995-920426 19950517

FDT AU 9525880 A Based on WO 9531901; EP 759693 A1 Based on WO 9531901 690694 B Previous Publ. AU 9525880, Based on WO 9531901; US 578022 of US 5639598; EP 759693 B1 Based on WO 9531901; DE 69532197 E Bas 759693, Based on WO 9531901; ES 2210291 T3 Based on EP 759693

PRAI US 1995-382873 19950203; US 1994-246177 19940519

L19 ANSWER 9 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1995-231517 [30] WPIDS
DNC C1995-106867
TI Pure **vpr** receptor protein - useful to treat individuals exposed to and to identify anti-HIV agents that inhibit binding of **vpr** to th receptor.
DC B04
IN LEVY, D N; REFAELI, Y; **WEINER, D B**
PA (UYPE-N) UNIV PENNSYLVANIA
CYC 20
PI WO 9516705 A1 19950622 (199530)* EN 31
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP US
AU 9513733 A 19950703 (199542)
US 5780238 A 19980714 (199835)

ADT WO 9516705 A1 WO 1994-US14532 19941215; AU 9513733 A AU 1995-1373 19941215; US 5780238 A CIP of US 1993-167519 19931215, WO 1994-US 19941215, US 1996-652572 19961024

FDT AU 9513733 A Based on WO 9516705; US 5780238 A Based on WO 9516705

PRAI US 1993-167519 19931215; US 1996-652572 19961024

L19 ANSWER 10 OF 10 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1994-294323 [36] WPIDS
DNC C1994-134441
TI Use of **viral protein R** and nucleic acid - for inducing differentiation of cells and in screening assays, diagnosis and th e.g. HIV infection.
DC B04 D16
IN LEVY, D N; REFAELI, Y; **WEINER, D B**
PA (WEIN-I) WEINER D B; (LEVY-I) LEVY D N; (REFA-I) REFAELI Y; (LEVY M; (UYPE-N) UNIV PENNSYLVANIA; (WIST-N) WISTAR INST
CYC 51
PI WO 9419456 A1 19940901 (199436)* EN 114
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ

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           LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US UZ VN
     AU 9462524      A  19940914 (199502)
     ZA 9401111      A  19941130 (199503)       32
     EP 689586       A1 19960103 (199606)  EN
         R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
     EP 689586       A4 19971229 (199840)
     US 5874225      A  19990223 (199915)
     IL 108707       A  19990620 (199937)
     US 2003207252   A1 20031106 (200374)
     MX 9401321      A1 20031001 (200466)
     US 6838236      B1 20050104 (200503)
ADT  WO 9419456 A1 WO 1994-US2191 19940222; AU 9462524 A AU 1994-62524
     19940222; ZA 9401111 A ZA 1994-1111 19940218; EP 689586 A1 EP 1994
     19940222, WO 1994-US2191 19940222; EP 689586 A4 EP 1994-909839 19
     US 5874225 A US 1993-19601 19930219; IL 108707 A IL 1994-108707 1
     US 2003207252 A1 CIP of US 1993-19601 19930219, Div ex US 1993-16
     19931215, US 2001-935100 20010822; MX 9401321 A1 MX 1994-1321 199
     6838236 B1 CIP of US 1993-19601 19930219, US 1993-167608 19931215
FDT  AU 9462524 A Based on WO 9419456; EP 689586 A1 Based on WO 9419456
     2003207252 A1 CIP of US 5874225; US 6838236 B1 CIP of US 5874225
PRAI US 1993-167608       19931215; US 1993-19601        19930219;
     US 2001-935100       20010822


=> d his

     (FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

     FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
L1             1 S US4808536/PN
L2             1 S US5001230/PN
L3             1 S US5874225/PN
                 E WEINER DAVID B/IN
L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL
L9         38258 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L10          728 S L9 AND (VPR OR VIRAL PROTEIN R)
L11          675 S L10 AND ANTIBOD?
L12           21 S L11 AND AY<1994
L13          141 S L10 AND (VPR/CLM OR VIRAL PROTEIN R/CLM)
L14           40 S L13 AND ANTIBOD?/CLM
L15            2 S L14 AND AY<1994
L16            6 S L13 AND AY<1994
L17            4 S L16 NOT L15

     FILE 'WPIDS' ENTERED AT 08:20:18 ON 04 APR 2005
                 E WEINER DAVID B/IN
```

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                E WEINER D B/IN
L18           66 S E3
L19           10 S L18 AND (VPR OR VIRAL PROTEIN R)

=> s (Vpr or viral protein R)
           189 VPR
         25368 VIRAL
        125679 PROTEIN
        516594 R
            10 VIRAL PROTEIN R
                 (VIRAL(W)PROTEIN(W)R)
L20         189 (VPR OR VIRAL PROTEIN R)

=> s l20 and (Vpr/ab or viral protein R/ab)
'AB' IS NOT A VALID FIELD CODE
             0 VPR/AB
             0 VIRAL PROTEIN R/AB
L21          0 L20 AND (VPR/AB OR VIRAL PROTEIN R/AB)

=> s l20 and ay<1994
       4520355 AY<1994
                 (AY<1994)
L22         32 L20 AND AY<1994

=> s l22 not l19
L23         30 L22 NOT L19

=> d l23,bib,1-30

L23  ANSWER 1 OF 30  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN   2004-236717 [22]   WPIDS
CR   1985-100790 [17]; 1986-119166 [18]; 1986-212111 [32]; 1986-313518
     1995-161085 [21]; 2002-711525 [77]; 2003-615327 [58]
DNC  C2004-092505
TI   New purified peptide encoded by the vpr gene of HIV-1, useful for
     preparing a composition for diagnosing or treating HIV infection.
DC   B04 D16 S03
IN   ALIZON, M; BARRE-SINOUSSI, F; CHAMARET, S; CHERMANN, J; CLAVEL, F;
     O; KRUST, B; MONTAGNIER, L; SONIGO, P; STEWART, C; WAIN-HOBSON, S
PA   (CNRS) CENT NAT RECH SCI; (INSP) INST PASTEUR
CYC  12
PI   US 6706268      B1 20040316 (200422)*      37
     EP 1231271      B1 20041229 (200502)  EN
         R: AT BE CH DE FR GB IT LI LU NL SE
     DE 3588251      G  20050203 (200510)
ADT  US 6706268 B1 Div ex US 1985-771248 19850830, Div ex US 1988-1586
     19880222, Div ex US 1992-953060 19921105, Div ex US 1994-195024
     19940214, Div ex US 1997-344449 19971231, US 2000-709316 20001113
     1231271 B1 Div ex EP 1991-113062 19851018, Related to EP 2001-111
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19851018, EP 2002-8713 19851018; DE 3588251 G **DE 1985-3588251 19851018, EP 2002-8713 19851018**
FDT US 6706268 B1 Div ex US 5705612, Div ex US 6261564; EP 1231271 B1 EP 462627; DE 3588251 G Based on EP 1231271
PRAI GB 1984-29099 19841116; FR 1984-16013 19841018; GB 1985-1473 19850121

L23 ANSWER 2 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 2001-060089 [07] WPIDS
CR 2000-037081 [03]; 2000-125951 [11]
DNC C2001-016580
TI New altered major histocompatibility complex (MHC) class I determi useful for eliciting an immune response and/or for immunizing agai treating diseases, for example, multiple sclerosis, AIDS, toxic sh snake bite.
DC B04 D16
IN ABASTADO, J; CASROUGE, A; KOURILSKY, P; LONE, Y; MOTTEZ, E; OJCIUS
PA (INRM) INST NAT SANTE & RECH MEDICAL; (INSP) INST PASTEUR
CYC 1
PI US 6153408 A 20001128 (200107)* 105
ADT US 6153408 A **Cont of US 1991-792473 19911115, CIP of US 1991-8018 19911205, CIP of US 1993-72787 19930607, Cont of US 1993-117575 19930907**, US 1995-370476 19950109
PRAI US 1993-117575 19930907; US 1991-792473 19911115; US 1991-801818 19911205; US 1993-72787 19930607; US 1995-370476 19950109

L23 ANSWER 3 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 2000-037081 [03] WPIDS
CR 2000-125951 [11]; 2001-060089 [02]
DNC C2000-009448
TI Composition containing an antigen and altered major histocompatibi Class II determinant, used to immunize against autoimmune diseases acquired immune deficiency syndrome.
DC B04 D16
IN ABASTADO, J; KOURILSKY, P; MOTTEZ, E
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE; (INSP) INST PASTEUR
CYC 1
PI US 5976551 A 19991102 (200003)* 96
ADT US 5976551 A **Cont of US 1991-792473 19911115, Div ex US 1991-8018 19911205**, US 1995-484905 19950607
PRAI US 1991-792473 19911115; US 1991-801818 19911205; US 1995-484905 19950607

L23 ANSWER 4 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1998-210039 [19] WPIDS
DNN N1998-166792 DNC C1998-066175

TI Colour image recording method using electrostatic latent image - maintaining ratio of moving speed of two component roller and that latent image carrier within predetermined range.
DC G08 P84
PA (XERF) FUJI XEROX KK
CYC 1
PI JP 2736970 B2 19980408 (199819)* 7
JP 63254472 A 19881021 (199819)
ADT JP 2736970 B2 **JP 1987-88627 19870413;** JP 63254472 A **JP 1987-88627**
FDT JP 2736970 B2 Previous Publ. JP 63254472
PRAI JP 1987-88627 19870413

L23 ANSWER 5 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1997-538622 [50] WPIDS
CR 1990-378039 [51]
DNN N1997-448251 DNC C1997-172371
TI Oligo-nucleotide primers for amplifying retroviral nucleic acids comprising conserved sequences of human immunodeficiency virus and immunodeficiency virus genes.
DC B04 D16 S03
IN MONCANY, M; MONTAGNIER, L; LUC, M; MAURICE, M
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE; (INSP) INST PASTEUR; INSERM INST NAT SANTE RE; (INRM) INST NAT SANTE & RECH MEDICALE
CYC 17
PI EP 806484 A2 19971112 (199750)* FR 23
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
SG 47868 A1 19980417 (199827)
US 5786177 A 19980728 (199837)
EP 403333 B1 19991006 (199946) FR
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69033311 E 19991111 (199954)
ES 2139567 T3 20000216 (200016)
JP 2000093187 A 20000404 (200027) 14
US 6194142 B1 20010227 (200114)
JP 3428012 B2 20030722 (200350) 23
US 2005037340 A1 20050217 (200514)
ADT EP 806484 A2 **Div ex EP 1990-401520 19900605, EP 1997-110543 19900** SG 47868 A1 **SG 1996-4845 19900605;** US 5786177 A **Cont of US 1992-8 19920121, Div ex US 1993-160465 19931202,** US 1997-895231 19970716 403333 B1 **EP 1990-401520 19900605, Related to EP 1997-110543 1990** DE 69033311 E **DE 1990-633311 19900605, EP 1990-401520 19900605;** E 2139567 T3 **EP 1990-401520 19900605;** JP 2000093187 A **Div ex JP 1990-508911 19900605, JP 1999-270165 19900605;** US 6194142 B1 **Cont US 1992-820599 19920121, Div ex US 1993-160465 19931202,** Div ex U 1997-895231 19970716, US 1998-92077 19980605; JP 3428012 B2 **JP 1990-508911 19900605, WO 1990-FR393 19900605;** US 2005037340 A1 **Co US 1992-820599 19920121, Div ex US 1993-160465 19931202,** Div ex U 1995-472928 19950607, US 2004-862363 20040608
FDT EP 806484 A2 Div ex EP 403333; US 5786177 A Div ex US 5688637; EP

B1 Related to EP 806484; DE 69033311 E Based on EP 403333; ES 2139 Based on EP 403333; US 6194142 B1 Div ex US 5688637, Div ex US 578 3428012 B2 Previous Publ. JP 04507043, Based on WO 9015066; US 200 A1 Div ex US 5688637
PRAI FR 1989-12371 19890920; FR 1989-7354 19890602; WO 1990-FR393 19900506

L23 ANSWER 6 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1997-148339 [14] WPIDS
DNN N1997-122593 DNC C1997-047315
TI Image formation for negatively charged toner for electrophotograph devices - by using specified large contact angle of water in one-system contg. coating matter with lubricated surface in holder, fo multicoloured development.
DC G08 P84
PA (CANO) CANON INC
CYC 1
PI JP 2584281 B2 19970226 (199714)* 8
JP 02010387 A 19900116 (199714)
ADT JP 2584281 B2 **JP 1988-159349 19880629**; JP 02010387 A **JP 1988-1593 19880629**
FDT JP 2584281 B2 Previous Publ. JP 02010387
PRAI JP 1988-159349 19880629

L23 ANSWER 7 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1994-279391 [34] WPIDS
DNC C1994-127476
TI Multiple gene mutants of human immunodeficiency virus - provide s attenuated vaccine for treatment and prophylaxis of HIV.
DC B04 D16
IN LOONEY, D J; WONG-STAAL, F; WONGSTAAL, F
PA (REGC) UNIV CALIFORNIA
CYC 45
PI WO 9417825 A1 19940818 (199434)* EN 28
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK LV MG MN MW NO NZ RU SD SK UA UZ VN
AU 9458487 A 19940829 (199501)
ADT WO 9417825 A1 **WO 1993-US12088 19931213**; AU 9458487 A **WO 1993-US12 19931213, AU 1994-58487 19931213**
FDT AU 9458487 A Based on WO 9417825
PRAI US 1993-14318 19930205

L23 ANSWER 8 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1994-024712 [03] WPIDS
DNN N1994-019213 DNC C1994-011493
TI Fabricator of rapidly cooled metal sheets etc. - consists of part

crucible with porous refractory yielding non deformable brazing al
DC M22 P53
IN CHEBOTARENKO, V YA; KULESHOV, B M; OVCHAROV, V P
PA (CHRN) FERROUS METALLURGY INST
CYC 1
PI SU 1785786 A1 19930107 (199403)* 5
ADT SU 1785786 A1 **SU 1989-4737120 19890913**
PRAI SU 1989-4737120 19890913

L23 ANSWER 9 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1993-405823 [50] WPIDS
DNN N1993-314044 DNC C1993-180402
TI Hybrid SIV-HIV-1 viral vectors - used to provide animal models for infection or a therapeutic agents or in vaccines for HIV-1.
DC B04 D16 P14
IN HASELTINE, W A; LETVIN, N; LI, J; SODROSKI, J
PA (DAND) DANA FARBER CANCER INST INC; (HARD) HARVARD COLLEGE
CYC 41
PI WO 9324632 A1 19931209 (199350)* EN 73
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AU BB BG BR CA CZ FI HU JP KR LK MG MN MW NO NZ PL RO RU SD US
AU 9345223 A 19931230 (199415)
EP 642582 A1 19950315 (199515) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 08500965 W 19960206 (199643) 56
US 5654195 A 19970805 (199737) 19
ADT WO 9324632 A1 **WO 1993-US4814 19930520;** AU 9345223 A **AU 1993-45223 19930520;** EP 642582 A1 **EP 1993-915118 19930520, WO 1993-US4814 19930520;** JP 08500965 W **WO 1993-US4814 19930520, JP 1994-500637 19930520;** US 5654195 A **Cont of US 1992-887505 19920522,** US 1994-2 19940701
FDT AU 9345223 A Based on WO 9324632; EP 642582 A1 Based on WO 9324632 08500965 W Based on WO 9324632
PRAI US 1992-887505 19920522; US 1994-268799 19940701

L23 ANSWER 10 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1993-146253 [18] WPIDS
DNC C1993-065178
TI New oligo-deoxyribonucleoside phosphoro-thioate derivs. - are ant oligo-nucleoside(s) active against HIV genes GAG, POL, VIF, **VPR,** REV, ENV, NEF or LTR.
DC B04
PA (SAOK) SANYO KOKUSAKU PULP CO
CYC 1
PI JP 05078386 A 19930330 (199318)* 17
ADT JP 05078386 A **JP 1991-232339 19910820**
PRAI JP 1991-232339 19910820

L23 ANSWER 11 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1993-107741 [13] WPIDS
DNC C1993-047759
TI Concrete mixt. used in road construction - contains Portland ceme water, coarse and fine filler and chemical additive to improve pro
DC A93 L02
IN AMINOV, E KH; GUSEV, B V; LITVAK, L A
PA (TSCA) TASHK CARS ROADS INST
CYC 1
PI SU 1726460 A1 19920415 (199313)* 5
ADT SU 1726460 A1 **SU 1990-4782421 19900116, SU 1990-4783489 19900116**
PRAI SU 1990-4782421 19900116; SU 1990-4783489 19900116

L23 ANSWER 12 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1993-065023 [08] WPIDS
DNN N1993-049595 DNC C1993-029292
TI Appts. for dosed feed of free flowing materials - contains drum w longitudinal recesses as doser revolving under hopper discharge sl determined conicity.
DC M23 P55
IN FILATOV, A I; KRASNOV, B P
PA (KRAS-I) KRASNOV B P
CYC 1
PI SU 1720822 A1 19920323 (199308)* 3
ADT SU 1720822 A1 **SU 1986-4034080 19860305**
PRAI SU 1986-4034080 19860305

L23 ANSWER 13 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1992-339475 [41] WPIDS
DNN N1992-258781
TI Method of measuring internal diameter of hollow electroconducting from calibration characteristics taken at each frequency and from amplitudes and phases of induced voltage.
DC S02
IN KASHAEV, YU G
PA (KASH-I) KASHAEV YU G
CYC 1
PI SU 1693364 A1 19911123 (199241)* 3
ADT SU 1693364 A1 **SU 1988-4416126 19880425**
PRAI SU 1988-4416126 19880425

L23 ANSWER 14 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1992-129926 [16] WPIDS
DNC C1992-061099
TI Rolled flat aluminium sheet plate and foil prodn. - includes mul

rolling at elevated temp. and calculated rolling rate.
DC M21 M29
IN GORITSKOV, P N; SMAGORINSK, M E
PA (LEKA) LENGD KALININ POLY
CYC 1
PI SU 1661241 A 19910707 (199216)* 3
ADT SU 1661241 A **SU 1989-4699890 19890605**
PRAI SU 1989-4699890 19890605

L23 ANSWER 15 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1992-056816 [07] WPIDS
CR 1999-080408 [07]
DNC C1992-025655
TI Primate lentivirus vaccine protecting against AIDS - and primate lentiviruses and their DNA clones contg. null mutation(s), useful producing vaccine.
DC B04 D16
IN DESROSIERS, R C
PA (HARD) HARVARD COLLEGE
CYC 15
PI WO 9200987 A 19920123 (199207)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE
W: JP
EP 491930 A1 19920701 (199227) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
JP 05501654 W 19930402 (199318) 16
EP 491930 B1 19970115 (199708) EN 20
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69124215 E 19970227 (199714)
ADT EP 491930 A1 **EP 1991-913715 19910710, WO 1991-US4884 19910710;** JP 05501654 W **JP 1991-513074 19910710, WO 1991-US4884 19910710;** EP 4 B1 **EP 1991-913715 19910710, WO 1991-US4884 19910710;** DE 69124215 **1991-624215 19910710, EP 1991-913715 19910710, WO 1991-US4884 199**
FDT EP 491930 A1 Based on WO 9200987; JP 05501654 W Based on WO 920098 491930 B1 Based on WO 9200987; DE 69124215 E Based on EP 491930, B WO 9200987
PRAI US 1990-551945 19900712

L23 ANSWER 16 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1991-022239 [03] WPIDS
DNC C1991-009577
TI Vector contg. active **viral protein R** gene encoding protein - havi ability to trans-activate, useful for producing high levels of des heterologous gene prod..
DC B04 D16
IN COHEN, E; HASELTINE, W A; TERWILLIGE, E; TERWILLIGER, E
PA (DAND) DANA FARBER CANCER INST INC
CYC 15

PI WO 9015875 A 19901227 (199103)*
RW: AT BE CH DE DK ES FR GB IT LU NL SE
W: CA JP
EP 474797 A 19920318 (199212) 39
R: AT BE CH DE DK ES FR GB IT LI LU
JP 04506605 W 19921119 (199301) 14
EP 474797 A4 19920805 (199523)
EP 474797 B1 19950906 (199540) EN
R: AT BE CH DE DK ES FR GB IT LI LU NL SE
DE 69022233 E 19951012 (199546)
ADT EP 474797 A **EP 1990-915880 19900601**; JP 04506605 W **JP 1990-514932 19900601, WO 1990-US3126 19900601**; EP 474797 A4 EP 1990-915880 ; EP 474797 B1 **EP 1990-915880 19900601, WO 1990-US3126 19900601**; 69022233 E **DE 1990-622233 19900601, EP 1990-915880 19900601, WO 1990-US3126 19900601**
FDT JP 04506605 W Based on WO 9015875; EP 474797 B1 Based on WO 901587 69022233 E Based on EP 474797, Based on WO 9015875
PRAI US 1989-361028 19890602

L23 ANSWER 17 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1991-011155 [02] WPIDS
DNN N1991-008418 DNC C1991-004938
TI Negatively chargeable magnetic developer - has specified toner gr distribution, and provides image of high density.
DC A89 E11 G08 P84 S06
PA (CANO) CANON KK
CYC 1
PI JP 02284153 A 19901121 (199102)* 18
JP 2728929 B2 19980318 (199816) 15
ADT JP 02284153 A **JP 1989-106602 19890426**; JP 2728929 B2 **JP 1989-1066 19890426**
FDT JP 2728929 B2 Previous Publ. JP 02284153
PRAI JP 1989-106602 19890426

L23 ANSWER 18 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1990-378039 [51] WPIDS
CR 1997-538622 [50]
DNN N1990-288105 DNC C1990-164681
TI New nucleotide sequences derived from genome of HIV-1, HIV-2 and useful as primers for amplification of immuno-deficiency viruses diagnosis and for raising antibodies in treatment of HIV infection
DC B04 D16
IN MONCANY, M; MONTAGNIER, L
PA (INRM) INSERM INST NAT SANTE RE; (INSP) INST PASTEUR; (INRM) INSER NAT SANTE & RECH MEDICALE; (INRM) INST NAT SANTE & RECH MEDICALE
CYC 17
PI EP 403333 A 19901219 (199051)* 24
R: AT BE CH DE ES FR GB GR IT LI LU NL SE

WO 9015066 A 19901213 (199101)
W: CA JP US
FR 2647809 A 19901207 (199105)#
FR 2652091 A 19910322 (199121)
JP 04507043 W 19921210 (199304)# 15
WO 9015066 A3 19910418 (199508)
US 5688637 A 19971118 (199801) 12
EP 403333 B1 19991006 (199946) FR
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
ES 2139567 T3 20000216 (200016)
JP 2000093187 A 20000404 (200027) 14
JP 3428012 B2 20030722 (200350) 23

ADT EP 403333 A **EP 1990-401520 19900605**; FR 2647809 A **FR 1989-7354 19890602**; FR 2652091 A **FR 1989-12371 19890920**; JP 04507043 W **JP 1990-508911 19900605, WO 1990-FR393 19900605**; WO 9015066 A3 **WO 1990-FR393 19900605**; US 5688637 A **Cont of WO 1990-FR393 19900605, of US 1992-820599 19920121, US 1993-160465 19931202**; EP 403333 B1 **1990-401520 19900605, Related to EP 1997-110543 19900605**; ES 2139 **EP 1990-401520 19900605**; JP 2000093187 A **Div ex JP 1990-508911 19900605, JP 1999-270165 19900605**; JP 3428012 B2 **JP 1990-508911 19900605, WO 1990-FR393 19900605**

FDT JP 04507043 W Based on WO 9015066; EP 403333 B1 Related to EP 8064 2139567 T3 Based on EP 403333; JP 3428012 B2 Previous Publ. JP 045 Based on WO 9015066

PRAI FR 1989-12371 19890920; FR 1989-7354 19890602; JP 1990-508911 19900605

L23 ANSWER 19 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1990-193937 [26] WPIDS
DNC C1990-083913
TI Microbial expression vectors - contg. viral protease gene to promo fusion protein cleavage.
DC B04 D16
IN KUBA, D
PA (DEAK) AKAD WISSENSCHAFTEN DDR
CYC 1
PI DD 275259 A 19900117 (199026)*
ADT DD 275259 A **DD 1988-319311 19880830**
PRAI DD 1988-319311 19880830

L23 ANSWER 20 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1990-140772 [19] WPIDS
DNN N1990-109156 DNC C1990-061793
TI Negatively chargeable electrostatic developers - contains toner a hydrophobic silica fine powder made by treating silica with polysi amine cpd..
DC A28 A89 G08 P84 S06
IN KUKIMOTO, T

PA (CANO) CANON KK
CYC 6
PI DE 3933166 A 19900503 (199019)* 18
GB 2224582 A 19900509 (199019)
JP 02097967 A 19900410 (199020)
FR 2637390 A 19900406 (199021)
US 5043239 A 19910827 (199137) 12
GB 2224582 B 19920722 (199230)
JP 05029902 B 19930506 (199321) 11
IT 1237473 B 19930607 (199345)
DE 3933166 C2 19980416 (199819) 14
ADT DE 3933166 A **DE 1989-3933166 19891004;** GB 2224582 A **GB 1989-22280 19891003;** JP 02097967 A **JP 1988-249744 19881005;** FR 2637390 A **FR 1989-12987 19891004;** US 5043239 A **US 1989-414292 19890929;** GB 222 **GB 1989-22280 19891003;** JP 05029902 B **JP 1988-249744 19881005;** IT 1237473 B **IT 1989-48429 19891005;** DE 3933166 C2 **DE 1989-3933166 1**
FDT JP 05029902 B Based on JP 02097967
PRAI JP 1988-249744 19881005

L23 ANSWER 21 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1990-053071 [08] WPIDS
DNC C1990-022905
TI Amplifying nucleic acid sequences without cloning - by inserting into a vectorette and extension reacting at specific initiating pr region.
DC B04 D16
IN ANWAR, R; MARKHAM, A F; SMITH, J C
PA (ICIL) IMPERIAL CHEM IND PLC; (ZENE) ZENECA LTD
CYC 26
PI GB 2221909 A 19900221 (199008)*
EP 356021 A 19900228 (199009) EN
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
PT 91292 A 19900208 (199009)
NO 8903054 A 19900219 (199013)
BR 8903792 A 19900320 (199016)
DK 8903673 A 19900129 (199017)
FI 8903589 A 19900129 (199018)
ZA 8905473 A 19900328 (199018)
AU 8938966 A 19900322 (199032)
JP 02174679 A 19900706 (199033)
CN 1040220 A 19900307 (199049)
HU 53944 T 19901228 (199107)
DD 284053 A 19901031 (199114)
GB 2221909 B 19921111 (199246)
AU 635212 B 19930318 (199318)
IE 62579 B 19950405 (199522)
ADT GB 2221909 A **GB 1989-17143 19890727;** EP 356021 A **EP 1989-307672 19890727;** ZA 8905473 A **ZA 1989-5473 19890718;** JP 02174679 A **JP 1989-196447 19890728;** GB 2221909 B **GB 1989-17143 19890727;** AU 635

AU 1989-38966 19890725; IE 62579 B **IE 1989-2307 19890717**
FDT AU 635212 B Previous Publ. AU 8938966
PRAI GB 1988-18020 19880728; GB 1989-17143 19890727

L23 ANSWER 22 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1989-217600 [30] WPIDS
DNN N1989-165652 DNC C1989-097030
TI Hot working of titanium ingots - by applying working strain on ing surface, heating to above recrystallisation temp. and hot-working
DC M29 P51
PA (YAWA) NIPPON STEEL CORP
CYC 1
PI JP 01156456 A 19890620 (198930)* 4
ADT JP 01156456 A **JP 1987-313682 19871211**
PRAI JP 1987-313682 19871211

L23 ANSWER 23 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1989-152803 [21] WPIDS
DNN N1989-116588
TI Electrical drive circuit for inductive load e.g. coils of vibrator includes device to compare energisation signal and reference signa generate error signal.
DC P43 V06 X25
IN PARDOE, B H; BEVERLY, H PARDOE
PA (BRTE-N) BRITISH TECHNOLOGY GROUP LTD; (NATR) NAT RES DEV CORP
CYC 6
PI EP 317333 A 19890524 (198921)* EN 6
R: CH DE FR GB LI
GB 2213293 A 19890809 (198932)
GB 2213293 B 19920318 (199212)
US 5130618 A 19920714 (199231) 6
EP 317333 B1 19970212 (199712) EN 8
R: CH DE FR GB LI
DE 3855794 G 19970327 (199718)
ADT EP 317333 A **EP 1988-310900 19881118**; GB 2213293 A **GB 1988-27042 19881118**; GB 2213293 B **GB 1988-27042 19881118**; US 5130618 A **Cont 1988-273351 19881118, US 1989-455915 19891228**; EP 317333 B1 **EP 1988-310900 19881118**; DE 3855794 G **DE 1988-3855794 19881118, EP 1988-310900 19881118**
FDT DE 3855794 G Based on EP 317333
PRAI GB 1987-27070 19871119; GB 1988-27042 19881118

L23 ANSWER 24 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1988-290808 [41] WPIDS
DNC C1988-129295
TI Determn. of microorganism concn. in suspension by microscopy - in immuno-fluorescent analysis of suspension fixed in polymeric gel,

increase reliability and reduce time.
DC A89 D16 J04
IN MATYSYAK, M A; OLENEV, V I
PA (BIOL-R) BIOL INSTRMN RES
CYC 1
PI SU 1382848 A 19880323 (198841)* 4
ADT SU 1382848 A **SU 1986-4114593 19860908**
PRAI SU 1986-4114593 19860908

L23 ANSWER 25 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1987-221261 [31] WPIDS
CR 1987-329355 [47]; 1988-149264 [22]; 1988-220290 [31]; 1988-272808
1992-041067 [05]; 2000-328365 [28]; 2002-434814 [46]; 2003-553960
2004-070575 [07]
DNN N1987-165620 DNC C1987-093098
TI New type of human immuno-deficiency virus, infections for T4 cells
derived antigens, immunogens, monoclonal antibodies and nucleic ac
sequences, e.g. for diagnosis of AIDS.
DC B04 D16 S03
IN ALIZON, M; BRUN-VEZINET, F; CHAMARET, S; CLAVEL, F; GUETARD, D; GU
M; KATLAMA, C; MONTAGNIER, L; REY, M; ROUZIOUX, C; SONIGO, P; BRUN
F; ROUXIOUX, C; SOLANGE, C; GEUTARD, D; DUETARD, D; GUETARD, D G;
BURNVEZINE, F
PA (INSP) INST PASTEUR; (ALIZ-I) ALIZON M; (BRUN-I) BRUN-VEZINET F;
CLAVEL F; (GUET-I) GUETARD D; (MONT-I) MONTAGNIER L
CYC 24
PI WO 8704459 A 19870730 (198731)* FR 116
RW: OA
W: AU DK JP KR US
FR 2593189 A 19870724 (198736)
FR 2593190 A 19870724 (198736)
FR 2593922 A 19870807 (198738)
EP 239425 A 19870930 (198739) FR 164
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
FR 2594229 A 19870814 (198739)
AU 8768911 A 19870814 (198743)
FR 2596063 A 19870925 (198743)
ZA 8700469 A 19870714 (198744)
FR 2597500 A 19871023 (198750)
PT 84182 A 19880122 (198809)
DK 8704934 A 19871117 (198827)
JP 63502242 W 19880901 (198841)
EP 320495 A 19890614 (198924) FR
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
US 4839288 A 19890613 (198930) 8
EP 239425 B 19891102 (198944) FR
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 3760912 G 19891207 (198950)
ES 2013295 B 19900501 (199023)

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US 5030718      A  19910709 (199130)
US 5051496      A  19910924 (199141)
US 5055391      A  19911008 (199143)
US 5066782      A  19911119 (199149)
US 5268265      A  19931207 (199350)#
US 5306614      A  19940426 (199416)        32
US 5310651      A  19940510 (199418)        15
JP 06113833     A  19940426 (199421)        34
US 5364933      A  19941115 (199445)         7
JP 07233196     A  19950905 (199544)        27
JP 08113598     A  19960507 (199628)        28
CA 1338323      C  19960514 (199629)
US 5545726      A  19960813 (199638)        14
JP 08275783     A  19961022 (199701)        29
US 5578715      A  19961126 (199702)        18
US 5580739      A  19961203 (199703)        42
US 5597896      A  19970128 (199710)         7
JP 09037778     A  19970210 (199716)        27
JP 09075092     A  19970325 (199722)        27
JP 2611106      B2 19970521 (199725)        48
JP 2735521      B2 19980402 (199818)        28
JP 2771519      B2 19980702 (199831)        27
US 5770703      A  19980623 (199832)
JP 2801162      B2 19980921 (199843)        30
MX 185326       A  19970718 (199846)
US 5830641      A  19981103 (199851)
US 5866319      A  19990202 (199912)
JP 11018768     A  19990126 (199914)        29
JP 2865203      B2 19990308 (199915)        33
JP 2874846      B2 19990324 (199917)        33
US 5889158      A  19990330 (199920)
JP 2931294      B2 19990809 (199937)        28
US 5976785      A  19991102 (199953)
US 6037165      A  20000314 (200020)
US 6048685      A  20000411 (200025)
EP 320495       B1 20000802 (200038)# FR
    R: AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 3752319      G  20000907 (200044)
US 6162439      A  20001219 (200102)
ES 2150897      T3 20001216 (200105)
US 6261762      B1 20010717 (200142)
US 6265149      B1 20010724 (200146)
US 6296807      B1 20011002 (200160)
US 6316183      B1 20011113 (200173)
US 6355789      B1 20020312 (200221)
US 6429306      B1 20020806 (200254)
US 6514691      B1 20030204 (200313)
US 6518015      B1 20030211 (200314)
US 2003082523   A1 20030501 (200331)
US 2003091985   A1 20030515 (200335)
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US 2003186219 A1 20031002 (200365)
US 2003170658 A1 20030911 (200367)
IE 83207 B 20031210 (200381)
US 6664041 B2 20031216 (200382)

ADT WO 8704459 A **WO 1987-FR25 19870122;** FR 2593189 A **FR 1986-910 1986** FR 2593190 A **FR 1986-911 19860122;** FR 2593922 A **FR 1986-1635 1986** EP 239425 A **EP 1987-400151 19870122;** FR 2594229 A **FR 1986-1985 19860213;** FR 2596063 A **FR 1986-3881 19860318;** ZA 8700469 A **ZA 198 19870122;** FR 2597500 A **FR 1986-4215 19860324;** JP 63502242 W **JP 1987-500920 19870122;** EP 320495 A **Div ex EP 1987-400151 19870122, 1989-101328 19870122;** US 4839288 A **US 1986-835228 19860303;** US 50 A **US 1990-462984 19900110;** US 5051496 A **US 1987-3764 19870116;** US 5055391 A **US 1990-462353 19900103;** US 5066782 A **US 1990-462908 19900110;** US 5268265 A **Div ex US 1986-835228 19860303, Cont of US 1988-273050 19881118, US 1991-703048 19910517;** US 5306614 A **CIP o 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, US 1991-8108 19911220;** US 5310651 A **CIP of US 1986-835228 19860303, Cont of US 1986-916080 19861006, Cont of US 1986-933184 19861121, Cont of US 1990-602383 19901024, Cont of US 1990-604323 19901024, US 1991-75 19910909;** JP 06113833 A **Div ex JP 1987-500920 19870122, JP 1993-1 19870122;** US 5364933 A **Div ex US 1986-835228 19860303, Cont of US 1989-365117 19890612, Cont of US 1991-771893 19911007, Div ex US 1992-911364 19920713, US 1992-929432 19920814;** JP 07233196 A **Div 1993-12972 19870122, JP 1994-329070 19870122;** JP 08113598 A **Div e 1993-12972 19870122, JP 1995-257991 19870122;** CA 1338323 C **CA 1987-529362 19870210;** US 5545726 A **CIP of US 1986-835228 19860303 of US 1986-916080 19861006, Cont of US 1986-933184 19861121, Cont US 1990-602383 19901024, Cont of US 1990-604323 19901024, Cont of 1991-756998 19910910, US 1993-132919 19931007;** JP 08275783 A **Div 1993-12972 19870122, JP 1996-33969 19870122;** US 5578715 A **CIP of 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, Div ex US 1987-3764 19870116, US 1991-75490 19910904;** US 5580739 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Div ex US 1991-810908 19911220,** US 1994-214 19940317; US 5597896 A **Div ex US 1986-835228 19860303, Cont of US 1989-365117 19890612, Cont of US 1991-771893 19911007, Div ex US 1992-911364 19920713, Div ex US 1992-929432 19920814,** US 1994-202 19940225; JP 09037778 A **Div ex JP 1994-329070 19870122, JP 1996-1 19870122;** JP 09075092 A **Div ex JP 1987-500920 19870122, JP 1995-2 19870122;** JP 2611106 B2 **Div ex JP 1987-500920 19870122, JP 1993-1 19870122;** JP 2735521 B2 **Div ex JP 1987-500920 19870122, JP 1995-2 19870122;** JP 2771519 B2 **Div ex JP 1994-329070 19870122, JP 1996-1 19870122;** US 5770703 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Div ex US 1991-810908 19911220,** Cont of US

1994-214221 19940317, US 1995-468774 19950606; JP 2801162 B2 **Div 1993-12972 19870122, JP 1995-257991 19870122;** MX 185326 A **MX 1987-26941 19870122;** US 5830641 A **CIP of US 1986-835228 19860303, of US 1986-916080 19861008, CIP of US 1986-933184 19861121, CIP o 1987-3764 19870116, Cont of WO 1987-FR25 19870122, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Div ex US 1993-75020 19930611,** US 1994-2142 19940317; US 5866319 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, Div ex US 1987-3764 19870116, Cont of US 1991-754903 19910904,** US 1995-4680 19950606; JP 11018768 A **Div ex JP 1995-257991 19870122, JP 1998-1 19870122;** JP 2865203 B2 **JP 1987-500920 19870122, WO 1987-FR25 19870122;** JP 2874846 B2 **Div ex JP 1987-500920 19870122, JP 1996-3 19870122;** US 5889158 A **Div ex US 1986-835228 19860303, Cont of US 1989-365117 19890612, Cont of US 1991-771893 19911007, Div ex US 1992-911364 19920713, Div ex US 1992-929432 19920814,** Cont of US 1994-202260 19940225, US 1995-466704 19950606; JP 2931294 B2 **Div 1995-257991 19870122, JP 1998-119235 19870122;** US 5976785 A **CIP o 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, US 1991-8111 19911220;** US 6037165 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Cont of US 1993-75020 19930611,** Div ex US 1995-392613 19950222, US 1995-4704 19950606; US 6048685 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Cont of US 1991-810908 19911220,** US 1995-46 19950606; EP 320495 B1 **Div ex EP 1987-400151 19870122, EP 1989-10 19870122;** DE 3752319 G **DE 1987-3752319 19870122, EP 1989-101328 19870122;** US 6162439 A **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Cont of US 1991-810908 19911220,** US 1995-46 19950606; ES 2150897 T3 **EP 1989-101328 19870122;** US 6261762 B1 **CI US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of U 1986-931866 19861121, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Cont of US 1991-810908 19911220,** US 1997-77 19970102; US 6265149 B1 **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Cont of US 1993-75020 19930611,** Div ex US 1995-392613 19950222, US 1995-4704 19950606; US 6296807 B1 **Div ex US 1986-835228 19860303, Cont of U 1989-365117 19890612, Cont of US 1991-771893 19911007, Div ex US 1992-911364 19920713, Div ex US 1992-929432 19920814,** Cont of US 1994-202260 19940225, Div ex US 1995-466704 19950606, US 1998-143

19980828; US 6316183 B1 **CIP of US 1986-835228 19860303, Cont of U 1986-916080 19861006, Cont of US 1986-933184 19861121, Cont of US 1990-602383 19901024, Cont of US 1990-604323 19901024, Cont of US 1991-756998 19910909, Cont of US 1993-132919 19931007,** US 1995-46 19950606; US 6355789 B1 **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Div ex US 1991-810908 19911220,** Cont of US 1994-214221 19940317, US 1995-468424 19950606; US 6429306 B1 **CIP 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Cont of WO 1987-FR25 19870122, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Cont of US 1993-75020 19930611,** US 1995-392613 19950222; US 6514691 B1 **CIP o 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, Div ex US 1987-3764 19870116, Cont of US 1991-754903 19910904,** Cont of US 1995-468093 19950606, US 1998-19 19981113; US 6518015 B1 **CIP of US 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, Div ex US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Div ex US 1991-810908 19911220,** Cont of US 1997-774736 19970102, US 2000-862029 20000512; US 2003082523 A1 **C 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, Div ex US 1987-3764 19870116, Cont of US 1991-754903 19910904,** Cont of US 1995-468093 19950606, Div ex US 1998-191384 19981113, US 2002-133357 20020429; US 2003091985 A1 **C 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Div ex US 1987-13477 19870211, Div ex US 1991-752368 19910903, Div ex US 1991-810908 19911220,** Cont of US 1994-214221 19940317, Cont of US 1995-468424 19950606, US 2001-988213 20011119; US 2003186219 A1 **C 1986-835228 19860303, CIP of US 1986-916080 19861006, Cont of US 1986-916080 19861006, Cont of US 1986-933184 19861121, Cont of US 1990-602383 19901024, Cont of US 1991-756998 19910909, Cont of US 1993-132919 19931007,** Cont of US 1995-467161 19950606, US 2001-98 20011109; US 2003170658 A1 **CIP of US 1986-835228 19860303, CIP of 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Cont of US 1993-75020 19930611,** Cont of US 1995-392613 19950222, Div ex US 1995-470491 19950606, Div ex US 2001-862511 20010523, US 2002-180 20020627; IE 83207 B **IE 1987-174 19870122;** US 6664041 B2 **CIP of U 1986-835228 19860303, CIP of US 1986-916080 19861006, CIP of US 1986-933184 19861121, CIP of US 1987-3764 19870116, Cont of US 1987-150645 19871120, Div ex US 1990-462908 19900110, Cont of US 1991-792524 19911118, Cont of US 1993-75020 19930611,** Cont of US 1995-392613 19950222, Div ex US 1995-470491 19950606, US 2001-862 20010523

FDT US 5268265 A Div ex US 4839288; US 5306614 A CIP of US 4839288, Di 5079342; US 5310651 A CIP of US 4839288; US 5364933 A Div ex US 48

US 5545726 A CIP of US 4839288, Cont of US 5310651; US 5578715 A C
4839288, Div ex US 5051496; US 5580739 A CIP of US 4839288, CIP of
5051496, Div ex US 5079342; US 5597896 A Div ex US 4839288, Div ex
5364933; JP 2611106 B2 Previous Publ. JP 06113833; JP 2735521 B2 P
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5051496, Div ex US 5066782; US 5866319 A CIP of US 4839288, Div ex
5051496, Cont of US 5578715; JP 2865203 B2 Previous Publ. JP 63502
Based on WO 8704459; JP 2874846 B2 Previous Publ. JP 08275783; US
A Div ex US 4839288, Div ex US 5364933, Cont of US 5597896; JP 293
Previous Publ. JP 11018768; US 5976785 A CIP of US 4839288, CIP of
5051496, Div ex US 5079342; US 6037165 A CIP of US 4839288, CIP of
5051496, Div ex US 5066782; US 6048685 A CIP of US 4839288, CIP of
5051496, Div ex US 5079342; EP 320495 B1 Div ex EP 239425; DE 3752
Based on EP 320495; US 6162439 A CIP of US 4839288, CIP of US 5051
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6355789 B1 CIP of US 4839288, CIP of US 5051496, Div ex US 5079342
of US 5580739; US 6429306 B1 CIP of US 4839288, CIP of US 5051496,
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	FR 1986-911	19860122;	FR 1986-1635	19860206;	
	FR 1986-1985	19860213;	US 1986-835228	19860303;	
	FR 1986-3881	19860318;	FR 1986-4215	19860324;	
	US 1986-916080	19861006;	US 1986-933184	19861121;	
	EP 1987-400151	19870122;	EP 1989-101328	19870122;	
	US 1990-462984	19900110;	US 1987-3764	19870116;	
	US 1990-462353	19900103;	US 1990-462908	19900110;	
	US 1991-703048	19910517;	US 1989-365117	19890612;	
	US 1991-771893	19911007;	US 1992-911364	19920713;	
	US 1992-929432	19920814;	US 1986-931866	19861121;	
	US 1997-774736	19970102;	FR 1986-4556	19860328	

L23 ANSWER 26 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1987-197261 [28] WPIDS
DNN N1987-147393 DNC C1987-082810
TI Brazing graphite ring in titanium cylinder - by two-stage heating

vacuum and cooling in furnace to 700 deg. C followed by slow cooli
DC A81 M23 P55
IN PEREVESENT, B N; SHISHKINA, R N; SOKOLOVA, N M
PA (TOLY-R) TOLYATIN POLY
CYC 1
PI SU 1271694 A 19861123 (198728)* 3
ADT SU 1271694 A **SU 1985-3934499 19850726**
PRAI SU 1985-3934499 19850726

L23 ANSWER 27 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1987-008860 [02] WPIDS
TI Low temp. resistant mouldings from amide blends with graft copolym
obtd. by grafting elastomers with mono isocyanate adducts of hydro
(meth)acrylate(s).
DC A18 A23
IN BARTL, H; LINDNER, C; OTT, K H; SULING, C; TRABERT, L; WITTMANN, D
PA (FARB) BAYER AG
CYC 8
PI EP 208187 A 19870114 (198702)* GE
R: DE FR GB IT NL SE
DE 3524234 A 19870108 (198702)
JP 62013421 A 19870122 (198709)
US 4873289 A 19891010 (198950) 6
EP 208187 B 19901107 (199045)
R: DE FR GB IT NL SE
DE 3675440 G 19901213 (199051)
ADT EP 208187 A **EP 1986-108515 19860623**; DE 3524234 A **DE 1985-3524234 19850706**; JP 62013421 A **JP 1986-154270 19860702**; US 4873289 A **US 1988-246887 19880915**
PRAI DE 1985-3524234 19850706

L23 ANSWER 28 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1986-107516 [17] WPIDS
DNC C1986-045908
TI Vinyl propionate copolymer aq. emulsions prepn. - for paint and p
binders, by emulsion copolymerisation with T-butyl acrylate, (met
acid and unsatd. carboxylate.
DC A14 A82 A93 G02 L02
IN KERCKOW, A; MATTHAI, L; PETERS, K C; WISTUBA, E
PA (BADI) BASF AG
CYC 1
PI DE 3437920 A 19860417 (198617)* 9
DE 3437920 C 19890406 (198914)
ADT DE 3437920 A **DE 1984-3437920 19841017**
PRAI DE 1984-3437920 19841017

L23 ANSWER 29 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text

AN 1983-759874 [37] WPIDS
DNN N1983-160449
TI Light type selector - is for camera which is set automatically for daylight if electronic flash is primed.
DC P82 S06 W04
IN MURAMOTO, T; NISHIMURA, A; TAKAYMA, M
PA (CANO) CANON KK
CYC 3
PI DE 3306705 A 19830908 (198337)* 27
JP 58147721 A 19830902 (198341)
US 4499487 A 19850212 (198509)
US 4567509 A 19860128 (198607)
JP 61216585 A 19860926 (198645)
DE 3306705 C 19920409 (199215) 11
ADT JP 58147721 A JP 1985-20502 ; US 4499487 A **US 1983-467348 19830217**; US 4567509 A **US 1984-652171 19840918**
PRAI JP 1982-31228 19820226; JP 1986-20502 19820302

L23 ANSWER 30 OF 30 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
Full Text
AN 1982-P1133E [43] WPIDS
TI Large scale integrated semiconductor memory - has fault detection circuits, each with bistable multivibrator, to switch data from fa cells to reserve cells.
DC T01 U14
IN YAMADA, J
PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP
CYC 6
PI NL 8200978 A 19821001 (198243)* 28
FR 2501891 A 19820917 (198244)
GB 2097621 A 19821103 (198244)
DE 3208763 A 19821104 (198301)
US 4460998 A 19840717 (198431)
CA 1172768 A 19840814 (198437)
GB 2097621 B 19850703 (198527)
ADT GB 2097621 A **GB 1982-6917 19820309**; US 4460998 A **US 1982-356041 1**
PRAI JP 1981-34799 19810311

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COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 196.00 369.05

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 31 Mar 2005 (20050331/PD)
FILE LAST UPDATED: 31 Mar 2005 (20050331/ED)
HIGHEST GRANTED PATENT NUMBER: US6874161

HIGHEST APPLICATION PUBLICATION NUMBER: US2005071904
CA INDEXING IS CURRENT THROUGH 31 Mar 2005 (20050331/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 31 Mar 2005 (20050331/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2005

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>>> published document but also a list of any subsequent
>>> publications. The publication number, patent kind code, and
>>> publication date for all the US publications for an invention
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>>> /PK, etc.

>>> USPATFULL and USPAT2 can be accessed and searched together
>>> through the new cluster USPATALL. Type FILE USPATALL to
>>> enter this cluster.
>>>
>>> Use USPATALL when searching terms such as patent assignees,
>>> classifications, or claims, that may potentially change from
>>> the earliest to the latest publication.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s us6706268/pn
L24 1 US6706268/PN

=> d l24,cbib,ab,clm

L24 ANSWER 1 OF 1 USPATFULL on STN
2004:65817 Human deficiency virus type-1 (HIV-1) peptide encoded by th
gene.
Alizon, Marc, Paris, FRANCE
Sonigo, Pierre, Paris, FRANCE
Stewart, Cole, Chatillon, FRANCE
Danos, Oliver, Paris, FRANCE
Wain-Hobson, Simon, Montigny les Bretonneux, FRANCE
Institut Pasteur, Paris, FRANCE (non-U.S. corporation)Centre Nation
Recherche Scientifique, Paris, FRANCE (non-U.S. corporation)
US 6706268 B1 20040316 <-
APPLICATION: US 2000-709316 20001113 (9)
PRIORITY: FR 1984-16013 19841018
GB 1984-29099 19841116
DOCUMENT TYPE: Utility; GRANTED.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention is in the field of lymphadenopathy virus. This in relates to a diagnostic means and method to detect the presence RNA or antibodies of the lymphadenopathy retrovirus associated w acquired immune deficiency syndrome or of the lymphadenopathy sy by the use of DNA fragments or the peptides encoded by said DNA fragments. The invention further relates to the DNA fragments, v comprising them and the proteins expressed.

CLM What is claimed is:

1. A purified peptide encoded by the vpr gene of HIV-1, wherein peptide is free of particles of said virus and has the following acid sequence: Met-Glu-Ala-Pro-Glu-Asp-Gln-Gly-Pro-Gln-Arg-Asp-Asn-Glu-Trp-Thr-Leu-Gln-Leu-Leu-Glu-Glu-Leu-Lys-Asn-Glu-Ala-Val Phe-Pro-Arg-Ile-Trp-Leu-His-Gly-Leu-Gly-Gln-His-Ile-Tyr-Glu-Thr Asp-Thr-Trp-Ala-Gly-Val-Glu-Ala-Ile-Ile-Arg-Ile-Leu-Gln-Gln-Leu Ile-His-Phe-Arg-Ile-Gly-Cys-Arg-His-Ser-Arg-Ile-Gly-Val-Thr-Gln Arg-Ala-Arg-Asn-Gly-Ala-Ser-Arg-Ser.

2. A peptide of HIV-1 expressed from DNA corresponding to the vp reading frame, the DNA having the following nucleotide sequence:

```
5030       5040       5050       5060       5070
  AT GGAACAAGCC CCAGAAGACC AAGGGCCACA GAGGGAGCCA

      5080       5090       5100       5110       5120
CACAAGTAAG GGACACTAGA GCTTTTAGAG GAGCTTAAGA ATGAAGCTGT

      5130       5140       5150       5160       5170
TAGACATTTT CCTAGGATTT GGCTCCATGG CTTAGGGCAA CATATCTATG

      5180       5190       5200       5210       5220
AAACTTATGG GGATACTTGG GCAGGAGTGG AAGCCATAAT AAGAATTCTG

      5230       5240       5250       5260       5270
CAACAACTGC TGTTTATCCA TTTCAGAATT GGGTGTCGAC ATAGCAGAAT

      5280       5290       5300       5310
AGGCGTTACT CAACAGAGGA GAGCAAGAAA TGGAGCCAGT AGATCC, wherein the
recombinant DNA molecule.
```

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COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                7.08     376.13

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    http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

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 MeSH 2005 vocabulary.

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 substance identification.

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        117491 IMMUNODEFICIENCY
        391165 VIRUS
         45423 HUMAN IMMUNODEFICIENCY VIRUS
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L25     150879 (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)

=> s l25 and (Vpr or viral protein R)
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        326449 VIRAL
       1379612 PROTEIN
        261267 R
            62 VIRAL PROTEIN R
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L26         677 L25 AND (VPR OR VIRAL PROTEIN R)

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        909138 PROTEIN/AB
        227742 R/AB
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L27         606 L26 AND (VPR/AB OR VIRAL PROTEIN R/AB)

=> s l27 and py<1994
       9797716 PY<1994
L28         55 L27 AND PY<1994

=> d l28,cbib,ab,25-55

L28  ANSWER 25 OF 55     MEDLINE on STN
92068103.    PubMed ID: 1835572.   Human immunodeficiency virus type 1
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vif, **vpr**, and vpu mutants can produce persistently infected cells. Nishino Y; Kishi M; Sumiya M; Ogawa K; Adachi A; Maotani-Imai K; Hirai K; Ikuta K. (Institute of Immunological Science, Hokkaido University, Japan.) Archives of virology, **(1991)** 120 (3-4) 181-9 Journal code: 7506870. ISSN: 0304-8608. Pub. country: Austria. Lan English.

AB A series of **human immunodeficiency virus** type 1 (**HIV**-1) mutants i vif, **vpr**, vpu, and nef were constructed from an infectious plasmid 432) containing the full-length **HIV**-1 DNA by frameshift mutations. capacities for replication and cell killing of these mutant viruse examined in a clonal cell line (M 10) isolated from HTLV-I-transf MT-4 cells. In all cases, the mutant viruses replicated, expresse **HIV**-1 antigens, and induced drastic cytopathic effects. However, 10 cells survived infection with vif, **vpr**, and vpu mutant viruses became persistently **HIV**-1-infected, whereas no cells survived infe with the nef mutant as well as the wild-type virus. The **HIV**-1 pa produced from the surviving cells after infection with the vif, **v** vpu mutant viruses were fully replicative in M 10 cells without ap cytopathic effects.

L28 ANSWER 26 OF 55 MEDLINE on STN

92024082. PubMed ID: 1926777. Analysis of alternatively spliced **h immunodeficiency virus** type-1 mRNA species, one of which encodes a novel tat-env fusion protein. Furtado M R; Balachandran R; Gupta P Wolinsky S M. (Department of Medicine, Northwestern University Med School, Chicago, Illinois 60611.) Virology, **(1991 Nov)** 185 (1) 2 Journal code: 0110674. ISSN: 0042-6822. Pub. country: United State Language: English.

AB A polymerase chain reaction-based analysis was used to define the structures of the mRNAs that encode **human immunodeficiency virus** type-1 (**HIV**-1) regulatory and structural proteins in infected H9 c Twenty alternatively spliced mRNAs encoding the vif, **vpr**, env, ne and rev proteins were characterized. An evaluation of the coding potentials of these transcripts recognized both leaky scanning and reinitiation at downstream initiation codons as mechanisms that ma operate during translation of many of the polycistronic messages. splice acceptor sites, one at nt 6018 defining a new mRNA coding f env and vpu proteins and another at nt 8671 defining a novel tat- fusion transcript, were characterized. The latter transcript expr novel protein p17tev that was immunoprecipitated by both polyclona antibodies and monoclonals directed towards the C-terminal region The p17tev protein was able to transactivate transcription from th **HIV**-1 LTR in transient transfection assays. The use of multiple alternative splice donor and acceptor sites and the generation of proteins may confer evolutionary advantages on the viral mutants e them and influence the course of clinical disease.

L28 ANSWER 27 OF 55 MEDLINE on STN

91359921. PubMed ID: 1886517. Genetic regulation of **human immunodeficiency virus**. Steffy K; Wong-Staal F. (Department of

Medicine, University of California, San Diego, La Jolla 92093.) Microbiological reviews, **(1991 Jun)** 55 (2) 193-205. Ref: 123. Jo code: 7806086. ISSN: 0146-0749. Pub. country: United States. Langu English.

AB **Human immunodeficiency virus** (**HIV**) has a complex life cycle in which both cellular and virus-encoded factors participate to deter level of virus production. Two of the viral genes, tat and rev, a essential for virus replication and encode novel trans-activators interact specifically with their cognate RNA target elements. Elu of their mechanisms of action is likely to expand our knowledge of regulation at transcriptional and posttranscriptional levels in th eukaryotic cell. Several viral genes (vif, vpu, and **vpr**) facilit virus infection and/or release and may play a role in target cell and infection in vivo. The functions of yet other viral genes (ne remain unclear. Recent data also suggest that the tat gene produc have a role in **HIV** pathogenesis that goes beyond trans-activating expression. It can potentially impact on uninfected cells as a di molecule and alter the growth of different cell types.

L28 ANSWER 28 OF 55 MEDLINE on STN

91306450. PubMed ID: 1830183. Expression of **human immunodeficienc virus** type 1 vif and **vpr** mRNAs is Rev-dependent and regulated by splicing. Schwartz S; Felber B K; Pavlakis G N. (Human Retrovirus National Cancer Institute-Frederick Cancer Research and Developmen Center, Maryland 21702-1201.) Virology, **(1991 Aug)** 183 (2) 677-8 Journal code: 0110674. ISSN: 0042-6822. Pub. country: United State Language: English.

AB We have analyzed the structure and expression of the **HIV**-1 vif an mRNAs. The results revealed that the predominant vif and **vpr** mRN belong to the intermediate size class of **HIV**-1 mRNAs and that the expression is dependent on the presence of Rev protein. In additi levels of a small multiply spliced **vpr** mRNA were produced by **HIV**- cDNA cloning and expression of **vpr** cDNAs in eucaryotic cells revea that high levels of **Vpr** were produced only from the intermediate- mRNA in the presence of Rev. Thus, as demonstrated for the viral structural proteins, expression of Vif and **Vpr** is regulated by Re arrangement of the splice sites and the Rev-RRE interaction are responsible for the regulation of viral expression, and especially switching from an early stage, producing only or primarily Tat, Re Nef from multiply spliced mRNAs, to a late stage, leading to the production of Gag, Pol, Env, Vpu, Vif, and **Vpr** from unspliced and partially spliced mRNAs.

L28 ANSWER 29 OF 55 MEDLINE on STN

91302806. PubMed ID: 1712812. HLA-binding regions of **HIV**-1 protei A systematic study of viral proteins. Choppin J; Martinon F; Conna Pauchard M; Gomard E; Levy J P. (Institut Cochin de Genetique Mole (ICGM), INSERM U152, Paris, France.) Journal of immunology (Balti Md. : 1950), **(1991 Jul 15)** 147 (2) 575-83. Journal code: 2985117R ISSN: 0022-1767. Pub. country: United States. Language: English.

AB To detect HLA-binding peptides in 10 **HIV**-1 proteins (Rev, Tat, Vi **Vpr**, Vpu, Gag p18, Gag p24, Gag p15, Env gp120 and Env gp41), the peptide binding assay (PBA) has been performed using three HLA cla molecules. Correlations have been searched between the PBA result the peptide competitor activity in a functional test using HLA-A2-restricted CTL and target cells. A correlation between the found in the PBA and well-defined CTL epitopes could be attempted the three Gag proteins. For these proteins, our results are in ag with the known existence of epitopes reacting with human CD8+ CTL, some exceptions. Together with the results reported with a panel peptides, these experiments showed that at least 18/20 of the alre reported CTL epitopes from **HIV**-1 Gag, Nef, and Env proteins could detected by the PBA, most (17/18) corresponding to strong reactivi Perhaps more important, the regions of **HIV**-1 Gag p24 or Nef prote that contain multiple associated CTL epitopes, with different HLA restrictions, were clearly identified by the reactivities in the P several overlapping peptides and the major practical interest of t might be the detection of such polyepitopic regions. Prediction a proposed in this report for 10 proteins, including several protein which CTL epitopes remain presently unknown.

L28 ANSWER 30 OF 55 MEDLINE on STN

91293462. PubMed ID: 1829694. Molecular biology of the **human immunodeficiency virus** type 1. Haseltine W A. (Dana-Faber Cancer Institute, Harvard Medical School, Boston, Massachusetts 02115.) journal : official publication of the Federation of American Socie Experimental Biology, **(1991 Jul)** 5 (10) 2349-60. Ref: 120. Journ code: 8804484. ISSN: 0892-6638. Pub. country: United States. Langu English.

AB The immunodeficiency virus type 1 is a complex retrovirus. In add genes that specify the proteins of the virus particle and the repl enzymes common to all retroviruses, **HIV**-1 specifies at least six additional proteins that regulate the virus life cycle. Two of th regulatory genes, tat and rev, specify proteins essential for repl These proteins bind to specific sequences of newly synthesized vir and profoundly affect virus protein expression. Tat and rev appea prototypes of novel eukaryotic regulatory proteins. These two gen play a central role in regulating the rate of virus replication. other viral genes, vif, vpu, and **vpr**, affect the assembly and replication capacity of newly made virus particles. These genes m a critical role in spread of the virus from tissue to tissue and f person to person. Our understanding of the contribution of each o virus structural proteins and regulatory genes to the complex life of the virus in natural infections is incomplete. However, enough has been gained into the structure and function of each of these components to provide a firm basis for rational antiviral drug development.

L28 ANSWER 31 OF 55 MEDLINE on STN

91291498. PubMed ID: 1829617. Formation of noninfectious **HIV**-1 vi

particles lacking a full-length envelope protein. Ratner L; Vander N; Garcia J; Polinsky M; Westervelt P; Becich M. (Department of Me Washington University, St. Louis, MO 63110.) AIDS research and hu retroviruses, **(1991 Mar)** 7 (3) 287-94. Journal code: 8709376. ISS 0889-2229. Pub. country: United States. Language: English.

AB Deletions were constructed within a functional **human immunodefici virus** type 1 (**HIV**-1) proviral clone in order to assess the role of envelope protein in virus particle formation. A graded exonucleas deletion technique was used to produce 12 clones with deletions of nucleotides in the first conserved domain of envelope. This inclu clones with frameshift deletions and 3 clones with in-frame delet Isogenic pairs of env deletion clones were produced with or withou additional deletion in the vif and **vpr** genes. Upon transfection, clones produced virus particles, as determined by p24 antigen, rev transcriptase, and sucrose gradient assays with conditioned media. particles produced from clones with deletions in env or vif and **v** both regions, banded on sucrose gradients with a mobility similar of virus produced by the parental clone. The p24 gag capsid prote the particles was resistant to trypsin, but the particles were dis by treatment with Triton X-100, suggesting the presence of a surro lipid bilayer. Furthermore, electron microscopic studies revealed mature and immature virus particles derived from COS cells transfe with the env deletion clones. Cocultivation experiments with lymp cells and cells transfected with each of the env deletion clones demonstrated that the virus particles were noninfectious.

L28 ANSWER 32 OF 55 MEDLINE on STN

91251200. PubMed ID: 2041078. Generation of a chimeric human and s immunodeficiency virus infectious to monkey peripheral blood monon cells. Shibata R; Kawamura M; Sakai H; Hayami M; Ishimoto A; Adach (Department of Viral Oncology, Kyoto University, Japan.) Journal virology, **(1991 Jul)** 65 (7) 3514-20. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB We constructed five chimeric clones between **human immunodeficienc virus** type 1 (**HIV**-1) and simian immunodeficiency virus (SIVMAC) an four SIVMAC mutants by recombinant DNA techniques. Three chimeric and all mutants with an alteration in either the vif, vpx, **vpr**, o gene were infectious to human CD4-positive cell lines. The suscep of macaque monkey peripheral blood mononuclear cells (PBMC) to inf by these mutants and chimeras was examined in vitro. Macaque PBMC supported the replication of wild-type and vpx, **vpr**, and nef muta SIVMAC strains. A chimera carrying the long terminal repeats (LTR pol, vif, and vpx of SIVMAC and tat, rev, vpu, and env of **HIV**-1 w replication competent in PBMC. In contrast, **HIV**-1, the vif mutan SIVMAC, a chimera containing rev and env of SIVMAC, and a chimera containing vpx, **vpr**, tat, rev, and env of SIVMAC did not grow in P Western immunoblotting analysis of the replicating chimera in PBMC confirmed the hybrid nature of the virus. These data strongly sug that the sequence important for macaque cell tropism lies within t gag, pol, and/or vif sequences of the SIVMAC genome.

L28 ANSWER 33 OF 55 MEDLINE on STN

91237814. PubMed ID: 1674547. Characterization of multiple mRNA sp simian immunodeficiency virus from macaques in a CD4+ lymphoid cel Park I W; Steen R; Li Y. (New England Regional Primate Research Ce Harvard Medical School, Southborough, Massachusetts 01772.) Journ virology, **(1991 Jun)** 65 (6) 2987-92. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB Cytoplasmic poly(A)+ RNA was isolated from CEMX721.174 cells 5 to after infection with molecularly cloned simian immunodeficiency vi SIVmac239. Expression of SIV RNA was analyzed by Northern (RNA) b hybridization and by sequencing of cDNA clones. As expected, a sp donor site was demonstrated in the untranslated leader sequence ou the left long terminal repeat. The region between pol and env was to contain at least two splice donor and six splice acceptor sites Splice acceptor and donor sites in the intergenic region were suit positioned for expression of vpx, **vpr**, tat, and rev. Splice accep sites at nucleotides 8802 and 8805 were demonstrated in singly and spliced RNAs with the potential of expressing nef and the second e tat and rev. Our results demonstrate a complex pattern of alterna splicing of SIV mRNAs. The results are very similar to what has b observed in **human immunodeficiency virus** type 1-infected cells, suggesting that both human and simian immunodeficiency viruses are to multiple levels of regulation.

L28 ANSWER 34 OF 55 MEDLINE on STN

91224490. PubMed ID: 1827422. Rev is necessary for translation but cytoplasmic accumulation of **HIV**-1 vif, **vpr**, and env/vpu 2 RNAs. A S J; Chen I S. (Department of Microbiology, University of Californ Angeles School of Medicine.) Genes & development, **(1991 May)** 5 (808-19. Journal code: 8711660. ISSN: 0890-9369. Pub. country: Un States. Language: English.

AB The effect of Rev on cytoplasmic accumulation of the singly splice **human immunodeficiency virus** type 1 (**HIV**-1) vif, **vpr**, and env/vpu RNAs was examined by using a quantitative RNA polymerase c reaction (PCR) analysis following transfection of complete provira molecular clones into lymphoid cells. Previously published studie subgenomic env constructs in nonlymphoid cell types concluded that necessary for cytoplasmic accumulation of high levels of unspliced and that, by analogy, Rev must be necessary for the cytoplasmic accumulation of all **HIV**-1 RNAs that contain the Rev-responsive el (RRE). We confirm those results in COS cells. Unexpectedly, in l cells, we find that although Rev acts somewhat to increase the cyt level of full-length **HIV**-1 RNA, Rev has little or no effect on cytoplasmic accumulation of singly spliced **HIV**-1 RNAs. However, protein expression was greatly reduced in the absence of Rev. Ana the cytoplasmic RNA revealed that in the absence of Rev or the RRE cytoplasmic vif, **vpr**, and env/vpu 2 RNAs were not associated with polysomes but with a complex of 40S-80S in size. Consequently, ef expression of the Vif, **Vpr**, Vpu, and Env proteins from these RNAs

dependent on Rev. These results exclude a mechanism whereby the s function of Rev is simply to export RNAs from nucleus to cytoplasm discuss other models to take into account the dependence on Rev fo efficient translation of cytoplasmic **HIV**-1 RNAs.

L28 ANSWER 35 OF 55 MEDLINE on STN

91205767. PubMed ID: 2017879. A defective proviral DNA with a 2.6 deletion of **human immunodeficiency virus** type 1 (**HIV**-1) in a persistently **HIV**-1 infected cell clone. Imai H; Maotani-Imai K; S S; Ikuta K; Suehiro S; Kurimura T; Kato S; Hirai K. (Section of Se Hokkaido University, Sapporo, Japan.) Virus genes, **(1991 Jan)** 5 81-8. Journal code: 8803967. ISSN: 0920-8569. Pub. country: Unit States. Language: English.

AB A cell line (H2-5) producing defective doughnut-shaped particles **human immunodeficiency virus** type I (**HIV**-1) was found to contain proviral DNA with a large deletion of 2558 bases, corresponding to half of pol gene, the vif and **vpr** genes, and the 5' terminal of th gene.

L28 ANSWER 36 OF 55 MEDLINE on STN

91175192. PubMed ID: 2150318. **Human immunodeficiency virus vpr** gene encodes a virion-associated protein. Yuan X; Matsuda Z; Matsu Essex M; Lee T H. (Department of Cancer Biology, Harvard Universit of Public Health, Boston, MA 02115.) AIDS research and human retroviruses, **(1990 Nov)** 6 (11) 1265-71. Journal code: 8709376. I 0889-2229. Pub. country: United States. Language: English.

AB The **vpr** gene of **human immunodeficiency virus** type 1 (**HIV**-1) is one of the seven accessory genes that are believed to have roles i virus replication cycle. We report here the detection of a 13 kD protein in sucrose gradient-purified **HIV**-1. This protein was not detected in cells infected with a virus having a truncated **vpr** ge lacks the potential to encode for 26 C-terminal amino acid residue These findings raise the possibility that virion-associated **vpr** p may be involved in the early life cycle of **HIV**-1 replication and that the C-terminal region of the **vpr** gene is essential for its expression.

L28 ANSWER 37 OF 55 MEDLINE on STN

91174658. PubMed ID: 1706590. Generation and characterization of t **human immunodeficiency virus** type 1 mutants. Adachi A; Ono N; Saka H; Ogawa K; Shibata R; Kiyomasu T; Masuike H; Ueda S. (Institute f Research, Kyoto University, Japan.) Archives of virology, **(1991)** (1-2) 45-58. Journal code: 7506870. ISSN: 0304-8608. Pub. countr Austria. Language: English.

AB Mutations were introduced by recombinant DNA techniques into 9 gen infectious molecular clone of **human immunodeficiency virus** type 1 The 24 mutants generated were characterized biochemically and biol by transfection and infection experiments. None of the mutants wh mutations in gag (p17, p24, and p15 regions), pol (protease, rever transcriptase, and endonuclease domains), env (gp120 region), tat,

were infectious, whereas vif, **vpr**, vpu, some of env (gp41) and nef mutants could grow in human CD4+ cells to various degrees. Of the non-infectious mutants, only endonuclease (pol) and gp41 mutants e normal phenotypes with respect to the production of functional rev transcriptase, the expression of gag, pol, and env proteins, and t generation of progeny virions, when examined in transient assays. infectious mutants killed the CD4+ cells with the exception of a m carrying a defect in the vif gene.

L28 ANSWER 38 OF 55 MEDLINE on STN

91143122. PubMed ID: 2149621. Identification and localization of gene product of **human immunodeficiency virus** type 1. Sato A; Igarashi H; Adachi A; Hayami M. (Shionogi Institute for Medical Sc Osaka, Japan.) Virus genes, **(1990 Dec)** 4 (4) 303-12. Journal co 8803967. ISSN: 0920-8569. Pub. country: United States. Language: E

AB The entire **vpr** gene of **human immunodeficiency virus** type 1 (**HIV**-1) was cloned into procaryotic and eucaryotic expression vect Production of authentic protein encoded by the gene in bacterial a mammalian cells was monitored by Western blotting using guinea pig antisera raised against an N-terminal 14-oligopeptide of the pred **vpr** protein. A specific 12-kD protein was clearly detected with t antisera, but not with preimmune sera, in both cell systems, and t binding was blocked by the oligopeptide. These antisera also reco protein of the same size in several human T-cell lines infected w **HIV**-1. Western blotting analysis of subcellular fractions prepare the cells producing wildtype **vpr** protein strongly suggested that t protein was membrane associated. A region within the **vpr** require the stable expression of **vpr** product was also suggested by mutatio analyses.

L28 ANSWER 39 OF 55 MEDLINE on STN

91140768. PubMed ID: 1825343. Rev activates expression of the **hum immunodeficiency virus** type 1 vif and **vpr** gene products. Garrett D; Tiley L S; Cullen B R. (Howard Hughes Medical Institute, Duke University Medical Center, Durham, North Carolina 27710.) Journal virology, **(1991 Mar)** 65 (3) 1653-7. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB The proteins encoded by **human immunodeficiency virus** type 1 (**HIV**-1) can be divided into two temporally regulated classes. Ear gene products are encoded by multiply spliced mRNA species and are expressed constitutively. In contrast, late proteins are encoded class of unspliced or singly spliced viral transcripts whose cytop expression is induced by the viral Rev trans activator. Here, we demonstrate that the viral Vif and **Vpr** proteins are encoded by sin spliced viral mRNAs whose expression is activated by Rev. This ac is shown to result from the reduced utilization of splice sites ad to or within the vif and **vpr** coding sequences. Vif and **Vpr** there belong to the class of late **HIV**-1 gene products.

L28 ANSWER 40 OF 55 MEDLINE on STN

91122920. PubMed ID: 2149126. A synthetic protein corresponding to entire **vpr** gene product from the **human immunodeficiency virus HIV**-1 is recognized by antibodies from **HIV**-infected patients. Gras-Masse H; Ameisen J C; Boutillon C; Gesquiere J C; Vian S; Ney L; Drobecq H; Capron A; Tartar A. (Biomolecular Chemistry Facility CNRS-1309, Pasteur Institute, Lille, France.) International journ peptide and protein research, **(1990 Sep)** 36 (3) 219-26. Journal 0330420. ISSN: 0367-8377. Pub. country: Denmark. Language: English

AB The 95 amino acid-protein encoded by the non-structural **vpr** gene **human immunodeficiency virus** type 1 (LAV-1BRU isolate) was chemically synthesized by solid phase methodology. The synthetic protein was characterized by amino acid analysis, sequence analysi RP-HPLC, and urea-SDS PAGE. Using a radioimmunoassay, antibodies synthetic protein were detected in sera of 25% of **HIV** 1-seroposit patients tested. Western blot analysis suggested that the antibod preferentially recognize the dimeric form of **vpr**.

L28 ANSWER 41 OF 55 MEDLINE on STN

91090981. PubMed ID: 2265025. Nucleotide sequence of a Ugandan **HI** provirus reveals genetic diversity from other **HIV**-1 isolates. Ora Downing R G; Roff M; Clegg J C; Serwadda D; Carswell J W. (Divisio Pathology, PHLS Centre for Applied Microbiology and Research, Sali England.) AIDS research and human retroviruses, **(1990 Sep)** 6 (9) 1073-8. Journal code: 8709376. ISSN: 0889-2229. Pub. country: Un States. Language: English.

AB A Ugandan isolate of **human immunodeficiency virus** type 1 (**HIV**-1), designated U455, was adapted to growth in U937 cells, the provirus into the lambda L47.1 vector, and its DNA sequence determined. Th sequences of some of the U455 genes showed a marked divergence fro of North American and other African isolates. The sequenced clone defective with single in-phase stop codons in the **vpr** and env gen frame shift, resulting in a stop codon, within the vpu gene.

L28 ANSWER 42 OF 55 MEDLINE on STN

91045941. PubMed ID: 2236020. The **human immunodeficiency virus** ty 2 **vpr** gene is essential for productive infection of human macropha Hattori N; Michaels F; Fargnoli K; Marcon L; Gallo R C; Franchini (Laboratory of Tumor Cell Biology, National Cancer Institute, Nati Institutes of Health, Bethesda, MD 20892.) Proceedings of the Nat Academy of Sciences of the United States of America, **(1990 Oct)** 8 8080-4. Journal code: 7505876. ISSN: 0027-8424. Pub. country: Un States. Language: English.

AB The **human immunodeficiency virus** (**HIV**) genetic determinant(s) responsible for tropism in human T cells or macrophages are not we defined. We studied the role of the **HIV** type 2 (**HIV**-2) nef and **v** genes in viral tropism. **HIV**-2 mutants, lacking either **vpr** or nef genes, or both **vpr** and nef, were obtained by site-specific mutage of a biologically active **HIV**-2 proviral clone (**HIV**-2sbl/isy), whi infectious in both human T cells and macrophages. Viral progeny c mutations of nef, **vpr**, or of both nef and **vpr** genes replicated mo

efficiently than the parental virus in primary human peripheral bl cells and in the human Hut 78 T-cell line. In contrast, the **HIV**- mutant infected human macrophages as efficiently as the parental v whereas viruses lacking the **vpr** gene either alone or in conjunctio the lack of the nef gene did not replicate in macrophages. Thus, lack of nef in **HIV**-2 enhances viral replication in T cells and doe interfere with viral replication in primary macrophages, whereas essential for replication of **HIV**-2 in human macrophages. Because parental **HIV**-2sbl/isy cloned virus also infects rhesus macaques, t in animal studies of these **HIV**-2 mutants with differences in cell tropism and rates of replication will be highly useful in understa the mechanism of viral infectivity and possibly pathogenicity in v

L28 ANSWER 43 OF 55 MEDLINE on STN

91039259. PubMed ID: 2231682. Mutational analysis of simian immunodeficiency virus from African green monkeys and **human immunodeficiency virus** type 2. Shibata R; Adachi A; Sakai H; Ishim A; Miura T; Hayami M. (Institute for Virus Research, Kyoto Univers Japan.) Journal of medical primatology, **(1990)** 19 (3-4) 217-25. Journal code: 0320626. ISSN: 0047-2565. Pub. country: Denmark. Lan English.

AB We constructed ten mutants of simian immunodeficiency virus isolat African green monkey (SIVAGM), and nine mutants of **human immunodeficiency virus** type 2 (**HIV**-2) in vitro. Their infectivity cytopathogenicity, transactivation potential, virus RNA, and prote synthesis were examined by transfection and infection experiments. Mutations in three structural (gag, pol, env) and two regulator (t genes abolished the infectivity of both viruses, but vpx, **vpr** (**HI** and nef were dispensable and mutant viruses were indistinguishable phenotypically from wild type virus. A vif mutant of **HIV**-2 showe infectivity in cell-free condition, whereas SIVAGM mutants grew eq well with wild type virus. In transient transfection assays, rev derived from both viruses produced mainly small mRNA species and n detectable virus proteins and particles. Transactivation potentia mutants originated from both viruses was about three- to ten-fold than that of respective wild type DNAs, generating small amounts o

L28 ANSWER 44 OF 55 MEDLINE on STN

90347862. PubMed ID: 2384924. Characterization and expression of n singly spliced RNA species of **human immunodeficiency virus** type 1 Arrigo S J; Weitsman S; Zack J A; Chen I S. (Department of Microbi and Immunology, UCLA School of Medicine.) Journal of virology, **(Sep)** 64 (9) 4585-8. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB **Human immunodeficiency virus** type 1 (**HIV**-1) expresses the Vif, **Vpr**, Vpu, and Env proteins through complex differential splicing o single full-length RNA precursor. We used **HIV**-1-specific oligonucleotide primer pairs in a quantitative polymerase chain re procedure on RNA from fresh peripheral blood lymphocytes infected **HIV**-1JR-CSF to detect and characterize the singly spliced RNA spec

which might encode these proteins. The nucleotide sequences at th junctions of splice donor and acceptor sites of these RNAs were determined. One of these RNAs, which has not been previously desc appears to be a novel **HIV**-1 RNA encoding Env and/or Vpu proteins.

L28 ANSWER 45 OF 55 MEDLINE on STN

90320150. PubMed ID: 2371777. The env gene variability is not dire related to the high cytopathogenicity of an HIV1 variant. Spire B; I; Neuveut C; Sire J; Chermann J C. (Unite de Recherches INSERM su Retrovirus et Maladies Associees U322, Campus Universitaire de Lum Marseille, France.) Virology, **(1990 Aug)** 177 (2) 756-8. Journal 0110674. ISSN: 0042-6822. Pub. country: United States. Language: E

AB HIV1-NDK is a Zairian HIV1 isolate which is unique because of its cytopathic effect on T lymphoblastoid cell lines. Its sequence an has indicated 30% divergence with HIV1-LAV/BRU HTLVIII B prototype env gene encoding for the envelope glycoprotein gp120. In order t correlate the highly cytopathic properties with the env genetic variability, recombinants between the HIV1 prototype and HIV1-NDK been constructed, including HIV1-NDK env gene, and their cytopathi phenotypes were analyzed. The viral hybrid containing all HIV1 pr sequences except a large fragment including the total HIV1-NDK en remained at a low cytopathic phenotype. Our results suggest that sequences other than the env gene namely p18 gag, vif, and **vpr** ar required for the high virulence of HIV1-NDK.

L28 ANSWER 46 OF 55 MEDLINE on STN

90257596. PubMed ID: 2341832. Speed of progression to AIDS and deg antibody response to accessory gene products of **HIV**-1. Reiss P; L M; de Ronde A; de Wolf F; Dekker J; Debouck C; Goudsmit J. (Depart Virology, University of Amsterdam, the Netherlands.) Journal of m virology, **(1990 Mar)** 30 (3) 163-8. Journal code: 7705876. ISSN: 0146-6615. Pub. country: United States. Language: English.

AB Antibodies to E. coli-produced **HIV**-1 nef, rev, tat, vpu, and **vpr** proteins were measured by enzyme immunoassay in serial sets of ser 72 men seroconverting for antibodies to **HIV**-1 structural proteins from 190 initially symptom-free men who were seropositive for thes antibodies at entry into the study. In the men seroconverting for antibodies to structural proteins the levels of nef-, rev-, and tat-specific antibodies, but not of vpu-, and **vpr**-specific antibo within 3 months of seroconversion, appeared to be lower in the fiv progressing to AIDS, compared with the men remaining symptom-free follow-up. Analysis of the prevalence of previously described ant profiles to these accessory gene products was carried out. In all antibody seroconverters and in those **HIV**-1 antibody seropositive with 15 or more months of follow-up who progressed to AIDS, there shift from predominantly nef- and vpu-specific antibody negative p in the men developing AIDS in the early years of the study to predominantly nef- and vpu-specific antibody positive profiles in developed AIDS later. Rev- and tat-specific antibody negative pro were dominant in men progressing to AIDS throughout follow-up. N

vpr-specific antibody profile occurred preferentially in the men progressing to AIDS throughout follow-up. Low antibody reactivity accessory gene products nef, rev, and tat appears, like low anti- antibody reactivity, to be associated with progression to AIDS rel rapidly after infection with **HIV**-1.

L28 ANSWER 47 OF 55 MEDLINE on STN

90244434. PubMed ID: 2139896. **Human immunodeficiency virus vpr** product is a virion-associated regulatory protein. Cohen E A; Dehn Sodroski J G; Haseltine W A. (Division of Human Retrovirology, Dan Cancer Institute, Boston, Massachusetts.) Journal of virology, **(Jun)** 64 (6) 3097-9. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB The **vpr** product of the **human immunodeficiency virus** type 1 (**HIV**-1) acts in trans to accelerate virus replication and cytopath effect in T cells. Here it is shown that the **HIV**-1 viral particl contains multiple copies of the **vpr** protein. The **vpr** product is first regulatory protein of **HIV**-1 to be found in the virus particl This observation raises the possibility that **vpr** acts to facilita early steps of infection before de novo viral protein synthesis oc

L28 ANSWER 48 OF 55 MEDLINE on STN

90112644. PubMed ID: 2296082. Mutational analysis of the **human immunodeficiency virus** type 2 (**HIV**-2) genome in relation to **HIV**-1 and simian immunodeficiency virus SIV (AGM). Shibata R; Miura T; H Ogawa K; Sakai H; Kiyomasu T; Ishimoto A; Adachi A. (Department of Oncology, Kyoto University, Japan.) Journal of virology, **(1990 F** (2) 742-7. Journal code: 0113724. ISSN: 0022-538X. Pub. country: States. Language: English.

AB We constructed an infectious molecular clone of the **human immunodeficiency virus** type 2 (**HIV**-2) and generated nine frameshif mutants corresponding to nine open reading frames identified so fa Three structural (gag, pol, env) and two regulative (tat, rev) gen mutants were not infectious, whereas vif, vpx, **vpr**, and nef genes dispensable for infectivity. All of the mutants except env and re cytopathic in CD4+ human leukemia cells. In transfection assays, expression of **HIV**-2 long terminal repeat was activated by infectio clones of **HIV**-1, **HIV**-2, and simian immunodeficiency virus from Afr green monkey but not by the tat mutants. However, an **HIV**-2 tat m could produce small amounts of virus proteins and particles in con a rev mutant, which directed no detectable synthesis of virus prot virions.

L28 ANSWER 49 OF 55 MEDLINE on STN

90112005. PubMed ID: 2136912. Antibody response to viral proteins and R (**vpr**) in **HIV**-1-infected individuals. Reiss P; Lange J M; de Ronde A; de Wolf F; Dekker J; Danner S A; Debouck C; Goudsmit J. (Department of Virology, University of Amsterdam, The Netherlands. Journal of acquired immune deficiency syndromes, **(1990)** 3 (2) 115 Journal code: 8812597. ISSN: 0894-9255. Pub. country: United State

Language: English.

AB Antibodies to E. coli-produced **HIV**-1 **vpr** and vpu were determined b enzyme immunoassay in serial sets of sera from 72 men seroconverti antibodies to **HIV**-1 structural proteins, and from 196 initially symptom-free men who were positive for such antibodies at study en First detection of **vpr**- and vpu-specific antibodies always was wit months of seroconversion for antibodies to structural proteins. I combined cohort of 268 men, **vpr**- and vpu-specific antibodies were persistently in 26 and 43% of men, respectively. **Vpr**- and vpu-sp antibodies were transiently detected in 3 and 7%, respectively, an intermittently detected in 18 and 13% of men, respectively. No association was found between the patterns of **vpr**- or vpu-specifi antibody response and clinical outcome. In subjects with differen patterns of **vpr**- and vpu-specific antibody response, no clear temp relationship existed between the appearance or disappearance of an and the onset of **HIV**-1-related disease.

L28 ANSWER 50 OF 55 MEDLINE on STN

90079752. PubMed ID: 2136707. Identification of **HIV**-1 **vpr** product function. Cohen E A; Terwilliger E F; Jalinoos Y; Proulx J; Sodros Haseltine W A. (Department of Human Retrovirology, Dana-Farber Ca Institute, Harvard Medical School, Massachusetts 02115.) Journal acquired immune deficiency syndromes, **(1990)** 3 (1) 11-8. Journal 8812597. ISSN: 0894-9255. Pub. country: United States. Language: E

AB To investigate the role of **vpr** (**viral protein R**) in the replication and cytopathicity of **human immunodeficiency virus** typ (**HIV**-1), infectious proviruses were constructed that were isogenic except for the ability to produce the protein product of **vpr**. Th experiments described here demonstrate that **vpr** encodes a 96 amin 15 kDa protein. The **vpr** product increases the rate of replication accelerates the cytopathic effect of the virus in T cells. **Vpr** a trans to increase levels of viral protein expression. The stimula effect of **vpr** is observed to act on the **HIV**-1 LTR as well as on several heterologous promoters.

L28 ANSWER 51 OF 55 MEDLINE on STN

90074393. PubMed ID: 2590553. Serum reactivity to **HIV**-1 accessory products distinguishes East African from West African **HIV** strains infecting agent. Goudsmit J; Dekker J T; Boucher C A; Smit L; De R Debouck C; Barin F. (Human Retrovirus Laboratory, Academic Medical Amsterdam, The Netherlands.) AIDS research and human retroviruses **Oct)** 5 (5) 475-7. Journal code: 8709376. ISSN: 0889-2229. Report No.: PIP-060605; POP-00193107. Pub. country: United States. Language: English.

AB The existence of dual infections with **human immunodeficiency viru** (**HIV**)-1 and 2 in West African countries has been controversial, al the current consensus is that dual infection is not the cause of t extensive cross-reactivity observed between these 2 viruses. To e the role of antibody reactivity to the **HIV**-1 accessory gene produ type-specific **HIV** serology, proteins encoded for nef, tat, rev, **v**

and vpu were developed and used as an antigen. 5 of the 7 exclusiv **HIV**-2 reactive sera were not reactive to the **HIV**-1 accessory gene products. Moreover, the 2 sera that showed reactivity to the **HIV** envelope were the only ones reactive to **HIV**-1 accessory gene prod These findings indicate that type 2 viruses may be as diverse as t viruses. A subsequent analysis of sera from 24 West Africans reve reactivity with a simian immunodeficiency virus (SIV) peptide but an **HIV**-1 peptide previously shown to be discriminatory in a direct binding assay between **HIV**-1 and **HIV**-2. Compared to 29 control ser from East Africans, the West Africa sera had significantly lower reactivity to antibodies specific to nef, tat, and rev; there was reactivity to **vpr** and vpu. 38% of the West African sera compared w 93% of the East African sera showed reactivity to **HIV**-1 accessory products. It is concluded that, while reactivity to the **HIV**-1 ac gene products **vpr** and vpu indicate **HIV**-1 infection, reactivity to other accessory gene products cannot be used to identify virus typ the documented cross-reactivity to **HIV**-1 accessory gene products o antibodies elicited by **HIV**-2 strains.

L28 ANSWER 52 OF 55 MEDLINE on STN

89342662. PubMed ID: 2474678. Mutational analysis of the **human immunodeficiency virus vpr** open reading frame. Ogawa K; Shibata R; Kiyomasu T; Higuchi I; Kishida Y; Ishimoto A; Adachi A. (Departmen Viral Oncology, Kyoto University, Japan.) Journal of virology, **(Sep)** 63 (9) 4110-4. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB Mutations were introduced by recombinant DNA techniques into the open reading frame of an infectious molecular clone of **human immunodeficiency virus** type 1. The effect of these changes on the replicative and cytopathologic properties of the virus recovered f transfected cells was studied in several human CD4+ lymphocyte cel In all cases, mutant viruses were infectious and cytopathic. Howe when a low-input dose was used, mutants grew significantly more sl than the wild-type virus. The growth kinetics of **vpr** mutants wer distinct from those of vif and vpu mutants.

L28 ANSWER 53 OF 55 MEDLINE on STN

89259383. PubMed ID: 2724559. Isolation of **HIV**-2 from AIDS patien Ghana and analysis of sero-reactive patterns of Ghanaian sera. Hay Nippon rinsho. Japanese journal of clinical medicine, **(1989 Jan)** 141-8. Journal code: 0420546. ISSN: 0047-1852.
Report No.: PIP-061100; POP-00203853. Pub. country: Japan. Languag Japanese.

AB Institute for Virus Research, Kyoto University, and Noguchi Memori Research Institute in Ghana jointly isolated **HIV**-2 from a Ghanaia patient. Ghanaian **HIV**-2[GH-1] was similar in genomic organization but different in Restriction Enzyme Maps from the first isolated c French LAV-2 (**HIV**-2ROD). This fact is significant in suggesting multiplicity of **HIV**-2 virus. **HIV**-2[GH-1] was different from LAV- its antigenicity of envProtein. Sero-reactive patterns of 125 Gha

including 57 AIDS/ARC patients were analyzed using **HIV**-1, **HIV**-2, SIVAGM as antigen. 4 groups were recognized. Group I was **HIV**-1 o positive; Group II, **HIV**-2-only positive; Group III, mixed **HIV**-1 a **HIV**-2 positive; Group IV reacted to gag protein of **HIV**-1, **HIV**-2 a SIVAGM but not to envProtein of any. 24 Ghanians were **HIV**-1 posit were **HIV**-2 positive. 19 out of 20 **HIV**-2-only positive patients wer AIDS/ARC patients. Symptoms and route of infection from **HIV**-1 an **HIV**-2 AIDS seem to be similar but **HIV**-2 is weaker pathologically a in communicability. **HIV** positive patients were mostly found in th city such as Accra among young women, especially prostitutes who w migratory "workers" in neighboring countries along the Ivory Coast Sero-reactive patterns of Ghanaians with SIV as antigen had been k some time to be different from those of Kenyans in the east coast those of Gabonese. While KEnyan's antibody was high for **HIV**-1 an for SIVAGM, Ghanian's was higher for SIVAGM than **HIV**-1. Gabonese in between. With discovery of LAV-2 (**HIV**-2ROD) and Ghanian hybridization with its DNA probe Ghanaian's was found to have amon things VPX and **VPR** in common with **HIV**-2ROD.

L28 ANSWER 54 OF 55 MEDLINE on STN

89259122. PubMed ID: 2524599. **Viral protein R** of **human immunodeficiency virus** types 1 and 2 is dispensable for replicatio and cytopathogenicity in lymphoid cells. Dedera D; Hu W; Vander He Ratner L. (Department of Medicine, Washington University, St. Loui Missouri 63110.) Journal of virology, **(1989 Jul)** 63 (7) 3205-8. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United State Language: English.

AB **Viral protein R** (**VPR**) is conserved in **human immunodeficiency virus** types 1 and 2 (**HIV**-1 and **HIV**-2). To assess its function, we have constructed mutations within the **vpr** coding regions of **HIV**-1 **HIV**-2 predicted to express truncated **VPR** products. Infectious vir was produced by each proviral clone and showed similar replication kinetics and cytopathogenicity when compared with the correspondin parental proviral clone.

L28 ANSWER 55 OF 55 MEDLINE on STN

89089998. PubMed ID: 2850118. Animal models for **HIV** infection and memorandum from a WHO meeting. Anonymous. Bulletin of the World He Organization, **(1988)** 66 (5) 561-74. Journal code: 7507052. ISSN: 0042-9686.
Report No.: PIP-054632; POP-00186454. Pub. country: Switzerland. L English.

AB The **human immunodeficiency virus** is a member of the lentivirus subfamily of the retrovirus family. Retroviruses are RNA viruses code for an RNA-dependent DNA polymerase (reverse transcriptase), transcribes the RNA genome into a DNA provirus which, on integrati the host DNA, directs the synthesis of new virions. The RNA genom consists of a gag gene, which codes for the viral core proteins, a gene, which codes for the reverse transcriptase, an env gene, whic for the glycoproteins of the viral envelope, and several genes (ta

vif, **vpr**, and nef), that code for regulatory proteins. At each en the genome are long terminal repeats, that contain regulatory elem transcription. There are 3 subfamilies of Retroviridae (Oncovirin Spumavirinae, and Lentiverinae). The Lentiverinae ("slow viruses" include the bovine immunodeficiency virus (BIV), the feline immunodeficiency virus (FIV), the human immunodeficiency viruses (and the simian immunodeficiency viruses (SIV). SIV has been isola macaques (mac), African green monkeys (agm), sooty mangabeys (sm), mandrills (mnd). Only SIVmac causes an AIDS-like disease in its host, but it is genetically closer to **HIV**-2 than to **HIV**-1. SIVsm causes an AIDS-like disease in macaques, but not in the sooty mang Monkeys infected with SIV develop diarrhea, wasting, decrease in T lymphocytes, lymphadenopathy, development of giant cells, and encephalitis, as well as opportunistic infections. Kaposi's sarco however, has not been found in SIV-infected primates. Virus is re from peripheral blood mononuclear cells and the brain. SIV models useful for understanding the natural history of primate lentivirus defining the pathogenesis of AIDS, and for developing vaccines. T model would be one in which **HIV** causes AIDS, but so far only chimp and gibbons have successfully been infected with **HIV**-1, and altho virus, is recovered from peripheral blood mononuclear cells of chi within 2 weeks of infection, and 2 animals have lost antibodies to protein, none has so far developed clinical AIDS. Attempts to dev vaccines to immunize chimpanzees are continuing. Nonprimate lenti include the visna virus, the feline immunodeficiency virus, and th immunodeficiency virus. The visna virus infects fibroblasts by fu the viral envelope with the plasma membrane of the fibroblast; it macrophages by endocytosis. Infected macrophages regulate the pro and dissemination of viral particles. The feline immunodeficiency infects T-lymphocytes of cats and produces oral, gastrointestinal respiratory pathology as well as lymphadenopathy and opportunistic infections. Bovine immunodeficiency-like virus causes a generaliz lymphadenopathy similar to that seen in AIDS-related complex.

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L28 ANSWER 1 OF 55 MEDLINE on STN

94047336. PubMed ID: 8230445. Incorporation of **Vpr** into **human immunodeficiency virus** type 1 virions: requirement for the p6 regi of gag and mutational analysis. Paxton W; Connor R I; Landau N R. Diamond AIDS Research Center, New York, New York.) Journal of vir **(1993 Dec)** 67 (12) 7229-37. Journal code: 0113724. ISSN: 0022-53 Pub. country: United States. Language: English.

AB The product of the **vpr** open reading frame of **human immunodeficien virus** type 1 (**HIV**-1) is a 15-kDa, arginine-rich protein that is present in virions in molar quantities equivalent to that of Gag. report here the results of our investigations into the mechanism b **Vpr** is incorporated into virions during assembly in infected cells these studies we used an expression vector encoding a **Vpr** molecul

at its amino terminus to a nine-amino-acid peptide from influenza hemagglutinin. The tagged **Vpr** expression vector and a **vpr** mutant **HIV**-1 provirus were used to cotransfect COS cells, and the resulti virions were tested for the presence of the tagged protein on immu probed with monoclonal antibody against the hemagglutinin peptide. COS-produced virions were found to contain readily detectable amou tagged **Vpr** and smaller amounts of a putative tagged **Vpr** dimer. Infectivity of the particles was not altered by incorporation of t **Vpr**. Our results using this system in combination with mutant **HI** proviruses suggested that incorporation of **Vpr** into virions requi carboxy-terminal Gag protein of **HIV**-1 (p6) but not gp160, Pol, or genomic viral RNA. In addition, analysis of mutated, tagged **Vpr** molecules suggested that amino acids near the carboxy terminus (am acids 84 to 94) are required for incorporation of **Vpr** into **HIV**-1 virions. The single cysteine residue near the carboxy terminus wa required for production of a stable protein. Arginine residues te were not important for incorporation or stability of tagged **Vpr**. results suggested a novel strategy for blocking **HIV**-1 replication

L28 ANSWER 2 OF 55 MEDLINE on STN

94016888. PubMed ID: 8411397. Context-dependent role of **human immunodeficiency virus** type 1 auxiliary genes in the establishment chronic virus producers. Mustafa F; Robinson H L. (Department of M Genetics, University of Massachusetts Medical Center, Worcester 01 Journal of virology, **(1993 Nov)** 67 (11) 6909-15. Journal code: 0 ISSN: 0022-538X. Pub. country: United States. Language: English.

AB Two molecularly cloned viruses, **human immunodeficiency virus** type (**HIV**-1)-NL4-3 (NL4-3) and **HIV**-1-HXB-2 (HXB-2), have been used to the role of **HIV**-1 auxiliary genes in the establishment of chronic producers. NL4-3 encodes all known **HIV**-1 proteins, whereas HXB-2 defective for three auxiliary genes: **vpr**, vpu, and nef. Studies w done in H9 cells, a T-cell line unusually permissive for the estab of chronic virus producers. NL4-3 and HXB-2 undergo lytic phases infection in H9 cultures with HXB-2, but not NL4-3, supporting th efficient establishment of chronic virus producers. Tests of muta genomes containing various combinations of defective auxiliary gen revealed that both **vpr** and nef limited the ability of NL4-3 to es chronic virus producers. Tests of a series of recombinants betwee and HXB-2 revealed that 5' internal sequences as well as fragments containing defective auxiliary genes affected the establishment of virus producers. Viral envelope sequences and levels of virus pro did not correlate with the ability to establish chronic virus prod These results suggest that complex interactions of viral auxiliary nonauxiliary gene functions with the host cell determine the abili establish chronic virus producers.

L28 ANSWER 3 OF 55 MEDLINE on STN

94016837. PubMed ID: 8411357. **Human immunodeficiency virus** type 1 **viral protein R** localization in infected cells and virions. Lu Y L Spearman P; Ratner L. (Department of Medicine, Washington Universi

School of Medicine, St. Louis, Missouri 63110.) Journal of virolo **(1993 Nov)** 67 (11) 6542-50. Journal code: 0113724. ISSN: 0022-53 Pub. country: United States. Language: English.

AB The subcellular localization of **human immunodeficiency virus** type (**HIV**-1) **viral protein R** (**Vpr**) was examined by subcellular fractionation. In **HIV**-1-infected peripheral blood mononuclear cel **Vpr** was found in the nuclear and membrane fractions as well as the conditioned medium. Expression of **Vpr** without other **HIV**-1 protei in two different eukaryotic expression systems, demonstrated a pre localization of **Vpr** in the nuclear matrix and chromatin extract fractions. Deletion of the carboxyl-terminal 19-amino-acid argin sequence impaired **Vpr** nuclear localization. Indirect immunofluore confirmed the nuclear localization of **Vpr** and also indicated a perinuclear location. Expression of **Vpr** alone did not result in e of the protein from the cell, but when coexpressed with the Gag pr **Vpr** was exported and found in virus-like particles. A truncated G protein, missing the p6 sequence and a portion of the p9 sequence, incapable of exporting **Vpr** from the cell. Regulation of **Vpr** localization may be important in the influence of this protein on replication.

L28 ANSWER 4 OF 55 MEDLINE on STN

94016835. PubMed ID: 8411355. Analysis of simian immunodeficiency sequence variation in tissues of rhesus macaques with simian AIDS. T; Mori K; Kawahara T; Ringler D J; Desrosiers R C. (Division of P Medicine, Oregon Regional Primate Research Center, Medical Researc Foundation of Oregon, Beaverton 97006.) Journal of virology, **(19** 67 (11) 6522-34. Journal code: 0113724. ISSN: 0022-538X. Pub. co United States. Language: English.

AB One rhesus macaque displayed severe encephalomyelitis and another displayed severe enterocolitis following infection with molecularl simian immunodeficiency virus (SIV) strain SIVmac239. Little or n anti-SIV antibody developed in these two macaques, and they died relatively quickly (4 to 6 months) after infection. Manifestation tissue-specific disease in these macaques was associated with the emergence of variants with high replicative capacity for macrophag primary infection of tissue macrophages. The nature of sequence v in the central region (vif, **vpr**, and vpx), the env gene, and the n long terminal repeat (LTR) region in brain, colon, and other tissu examined to see whether specific genetic changes were associated w replication in brain or gut. Sequence analysis revealed strong conservation of the intergenic central region, nef, and the LTR. analysis of env sequences in these two macaques and one other reve significant, interesting patterns of sequence variation. (i) Chang env that were found previously to contribute to the replicative ab SIVmac for macrophages in culture were present in the tissues of t animals. (ii) The greatest variability was located in the regions V1 and V2 and from "V3" through C3 in gp120, which are different i location from the variable regions observed previously in animals strong antibody responses and long-term persistent infection. (iii

predominant sequence change of D-->N at position 385 in C3 is most surprising, since this change in both SIV and **human immunodeficie virus** type 1 has been associated with dramatically diminished affi for CD4 and replication in vitro. (iv) The nature of sequence chan some positions (146, 178, 345, 385, and "V3") suggests that viral replication in brain and gut may be facilitated by specific sequen changes in env in addition to those that impart a general ability replicate well in macrophages. These results demonstrate that com selective pressures, including immune responses and varying cell a tissue specificity, can influence the nature of sequence changes i

L28 ANSWER 5 OF 55 MEDLINE on STN

94016817. PubMed ID: 8411338. Alternative splicing of **human immunodeficiency virus** type 1 mRNA modulates viral protein express replication, and infectivity. Purcell D F; Martin M A. (Laboratory Molecular Microbiology, National Institute of Allergy and Infectio Diseases, Bethesda, Maryland 20892.) Journal of virology, **(1993** (11) 6365-78. Journal code: 0113724. ISSN: 0022-538X. Pub. count United States. Language: English.

AB Multiple RNA splicing sites exist within **human immunodeficiency virus** type 1 (**HIV**-1) genomic RNA, and these sites enable the synth of many mRNAs for each of several viral proteins. We evaluated th biological significance of the alternatively spliced mRNA species productive **HIV**-1 infections of peripheral blood lymphocytes and hu T-cell lines to determine the potential role of alternative RNA sp in the regulation of **HIV**-1 replication and infection. First, we u semiquantitative polymerase chain reaction of cDNAs that were radi for gel analysis to determine the relative abundance of the divers of alternatively spliced **HIV**-1 mRNAs. The predominant rev, tat, and env RNAs contained a minimum of noncoding sequence, but the predominant nef mRNAs were incompletely spliced and invariably inc noncoding exons. Second, the effect of altered RNA processing was measured following mutagenesis of the major 5' splice donor and se cryptic, constitutive, and competing 3' splice acceptor motifs of **HIV**-1NL4-3. Mutations that ablated constitutive splice sites led activation of new cryptic sites; some of these preserved biologica function. Mutations that ablated competing splice acceptor sites marked alterations in the pool of virus-derived mRNAs and, in some instances, in virus infectivity and/or the profile of virus protei redundant RNA splicing signals in the **HIV**-1 genome and alternativ spliced mRNAs provides a mechanism for regulating the relative pro of **HIV**-1 proteins and, in some cases, viral infectivity.

L28 ANSWER 6 OF 55 MEDLINE on STN

93301098. PubMed ID: 8314984. Enzyme-linked oligosorbent assay for detection of polymerase chain reaction-amplified **human immunodeficiency virus** type 1. Mallet F; Hebrard C; Brand D; Chapu E; Cros P; Allibert P; Besnier J M; Barin F; Mandrand B. (Unite Mi Recherche 103, Centre National de la Recherche Scientifique-bioMe Ecole Normale Superieure de Lyon, France.) Journal of clinical

microbiology, **(1993 Jun)** 31 (6) 1444-9. Journal code: 7505564. IS 0095-1137. Pub. country: United States. Language: English.

AB An enzyme-linked oligosorbent assay (ELOSA) was developed for the detection on microtiter plates of polymerase chain reaction (PCR)-amplified **human immunodeficiency virus** type 1 (**HIV**-1) DNA. The denatured PCR product was hybridized with a passively adsorbed oligonucleotide capture probe and a horseradish peroxidase-labele oligonucleotide detection probe. The sensitivity and specificity PCR-ELOSA technique depended to some extent on the nucleotide sequ the oligonucleotide primer and probe quartet used in the amplifica detection. We evaluated five oligonucleotide quartets located in pol, **vpr**, env, and nef regions of **HIV**-1. DNAs from 39 **HIV**-1-seropositive individuals and 27 healthy **HIV**-1-seronegative controls were amplified by the PCR procedure, and the products wer detected by ELOSA. Ten copies of **HIV**-1 DNA against a background o microgram of human DNA were specifically detected by PCR-ELOSA. Specificities and sensitivities were, respectively, 100 and 95% fo gag system, 100 and 97% for the pol system, 100 and 85% for the **v** system, 96 and 95% for the env system, and 100 and 95% for the nef The simplicity of ELOSA makes it suitable for automation and appli genetic testing and detection of viral and bacterial DNAs or RNAs routine laboratories.

L28 ANSWER 7 OF 55 MEDLINE on STN

93287266. PubMed ID: 8510229. Antisense phosphorothioate oligodeoxynucleotides targeted to the **vpr** gene inhibit **human immunodeficiency virus** type 1 replication in primary human macrophages. Balotta C; Lusso P; Crowley R; Gallo R C; Franchini G (Laboratory of Tumor Cell Biology, National Cancer Institute, Beth Maryland 20892.) Journal of virology, **(1993 Jul)** 67 (7) 4409-14. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United State Language: English.

AB The replication of human immunodeficiency viruses (**HIV**) in human macrophages is influenced by genetic determinants which have been predominantly to the viral envelope. However, in **HIV**-2, the **vpr** has also been suggested as an important modulator of viral express human macrophages. We synthesized five antisense phosphorothioate oligodeoxynucleotides complementary to the **vpr** mRNA of **HIV**-1Ba-L, highly macrophage-tropic viral strain, and measured their effect o **HIV**-1Ba-L replication in primary human macrophages. All of the oligodeoxynucleotides displayed some level of non-sequence-specif inhibition of viral replication; however, only the antisense one h additional effect on viral production in primary macrophages. Of antisense oligodeoxynucleotides tested, only one did not show any additional effect on viral production, whereas all the others inhi viral replication to a similar degree (70 to 100%). Variation in degree of inhibition was observed by using five different donors o primary macrophages. The phosphorothioate oligonucleotides, targe the initiating methionine of the **Vpr** protein, had an inhibitory ef at both 20 and 10 microM only when the size was increased from 24

bases. Thus, **HIV**-1 replication in human macrophages is modulated expression of the **vpr** gene, and it is conceivable that **vpr** antise oligodeoxynucleotides could be used in combination with antisense oligodeoxynucleotides against other **HIV**-1 regulatory genes to bett control viral expression in human macrophages.

L28 ANSWER 8 OF 55 MEDLINE on STN

93216509. PubMed ID: 8463132. Persistently **human immunodeficiency virus** type 1-infected T cell clone expressing only doubly spliced exhibits reduced cell surface CD4 expression. Kishi M; Nishino Y; Kimura T; Ikuta K. (Section of Serology, Hokkaido University, Sapp Japanese journal of cancer research : Gann, **(1993 Feb)** 84 (2) 153 Journal code: 8509412. ISSN: 0910-5050. Pub. country: Japan. Langu English.

AB Several cell clones possessing the **human immunodeficiency virus** t 1 (**HIV**-1) genome, consisting of an almost full-length DNA sequenc isolated by limiting dilution of the clonal cell line M10 derived MT-4 that survived infection with **HIV**-1 **vpr** mutant (M10/**vpr**-). O of the isolated clones (termed **Vpr**-1) expressed only doubly splice mRNA, but not unspliced or singly spliced mRNA. Western blots of revealed the presence of the nef translation product, although no expression of major structural genes such as gag, pol, and env was detected by indirect immunofluorescence and assay of reverse trans activity. These **HIV**-1 phenotypes differed greatly from those of t original M10/**vpr**-, most of which expressed major structural **HIV**-1 proteins. Despite undetectable levels of env expression in **Vpr**-1 antigens were greatly down-modulated on the surface without altera steady-state levels of CD4 mRNA expression, similar to M10/**vpr**-. **HIV**-1 phenotypes in **Vpr**-1 did not change after the treatment of th cells with both phorbol 12-myristate 13-acetate and phytohemagglut Therefore, the abnormal **HIV**-1 life cycle in **Vpr**-1 seems to be due some viral factor(s), as well as cellular factors. Thus, **Vpr**-1 c a useful model for understanding one **HIV**-1 latent form.

L28 ANSWER 9 OF 55 MEDLINE on STN

93177836. PubMed ID: 8440020. Induction of cell differentiation by **immunodeficiency virus** 1 **vpr**. Levy D N; Fernandes L S; Williams W Weiner D B. (Department of Medicine, University of Pennsylvania, Philadelphia.) Cell, **(1993 Feb 26)** 72 (4) 541-50. Journal code: 0413066. ISSN: 0092-8674. Pub. country: United States. Language: E

AB Cell lines from rhabdomyosarcomas, which are tumors of muscle orig been used as models of CD4-independent **HIV** infection. These cell can be induced to differentiate in vitro. We report here that the gene of HIV1 is sufficient for the differentiation of the human rhabdomyosarcoma cell line TE671. Differentiated cells are charac by great enlargement, altered morphology, lack of replication, and level expression of the muscle-specific protein myosin. We have a observed the morphological differentiation and inhibition of proli of two other transformed cell lines. **vpr**-transfected cells remain viable in culture for extended periods. These observations elucid

potential role for **vpr** in the virus life cycle and raise the possi that some aspects of **HIV**-induced pathologies may be caused by a disturbance of cells by **vpr**.

L28 ANSWER 10 OF 55 MEDLINE on STN

93174930. PubMed ID: 8438567. Intracellular transport and virion incorporation of vpx requires interaction with other virus type-s components. Kappes J C; Parkin J S; Conway J A; Kim J; Brouillette Shaw G M; Hahn B H. (Department of Medicine, University of Alabama Birmingham 35294.) Virology, **(1993 Mar)** 193 (1) 222-33. Journal 0110674. ISSN: 0042-6822. Pub. country: United States. Language: E

AB Viral protein X (vpx) is a virion-associated **HIV**-2/SIV accessory that enhances viral infectivity and replication in natural target To investigate whether other viral components affect its biosynthe subcellular localization, and virion incorporation, we expressed vpx in a mammalian cell system and examined its transport and pack requirements using an in trans complementation assay. The complet coding region of **HIV**-2ST was placed under the control of a high-efficiency promoter system (SR alpha) which contained both an promoter/enhancer region and R/U5 elements of the HTLV-1 LTR. Fo transfection of Cos-1 cells, this construct (pSR alpha-vpx) facil high level expression of vpx, as demonstrated by Western blot anal transfected cell lysates. Moreover, indirect immunofluorescence a revealed an intense vpx staining pattern distributed evenly throug cytoplasm of transfected cells. This distribution differed marked cells expressing wild-type **HIV**-2 in which vpx localized to the inn surface of the plasma membrane. To determine whether other **HIV** components were required for this surface localization, we express in the context of replication competent **HIV**-1 and **HIV**-2 proviruse Following cotransfection with a vpx-deficient **HIV**-2 provirus (pXM eukaryotically expressed vpx targeted to the plasma membrane and colocalized with **HIV**-2 p27 gag in a pattern indistinguishable from wild-type **HIV**-2. Moreover, progeny virions from cotransfected Cos cells contained wild-type amounts of vpx protein, demonstrating th could be efficiently packaged in trans. Under the same experiment conditions, cotransfection of vpx with wild-type **HIV**-1 (pHXB2) an **vpr**-deficient **HIV**-1 (pR2) failed to result in detectable cell surf targeting or virion incorporation of vpx despite its high level ce expression. These results demonstrate that efficient intracellula transport and packaging of vpx require interaction with other type-specific virus components.

L28 ANSWER 11 OF 55 MEDLINE on STN

93172371. PubMed ID: 8382307. A distinct African lentivirus from S monkeys. Hirsch V M; Dapolito G A; Goldstein S; McClure H; Emau P; N; Isahakia M; Lenroot R; Myers G; Johnson P R. (Laboratory of Inf Diseases, National Institute of Allergy and Infectious Diseases, Rockville, Maryland 20852.) Journal of virology, **(1993 Mar)** 67 (1517-28. Journal code: 0113724. ISSN: 0022-538X. Pub. country: U States. Language: English.

AB Asymptomatic infection with simian immunodeficiency virus (SIV) ha demonstrated in African Sykes' monkeys (Cercopithecus mitis albogu and virus isolation confirmed infection with a novel SIV from Syke monkeys (SIVsyk). Macaques inoculated with SIVsyk became persiste infected but remained clinically healthy. We utilized polymerase reaction amplification to generate a full-length, infectious mole clone of SIVsyk. The genome organization of SIVsyk is similar to the other primate lentiviruses, consisting of gag, pol, vif, **vpr**, rev, env, and nef. A unique feature is the absence of the highly conserved NF-kappa B binding site in the long terminal repeat. SI genetically equidistant from other primate lentiviruses. Thus, SI represents a new group that is distinct from the four previously recognized primate lentivirus groups: **human immunodeficiency viru** type 1 (**HIV**-1), SIV from sooty mangabeys (SIVsmm) and **HIV**-2, SIV African green monkeys (SIVagm), and SIV from mandrills (SIVmnd). genetic differences between SIVsyk and SIVagm, isolates derived fr monkeys of the same genus, underscore the potential for other dist SIVs which have yet to be isolated and characterized.

L28 ANSWER 12 OF 55 MEDLINE on STN

93172330. PubMed ID: 8437208. Integration is essential for efficie expression of **human immunodeficiency virus** type 1. Sakai H; Kawam M; Sakuragi J; Sakuragi S; Shibata R; Ishimoto A; Ono N; Ueda S; A (Institute for Virus Research, Kyoto University, Japan.) Journal virology, **(1993 Mar)** 67 (3) 1169-74. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB A mutant of **human immunodeficiency virus** type 1 which carries a frameshift insertion in the integrase/endonuclease region of pol g constructed in vitro. Upon transfection into cells, although this exhibited a normal phenotype with respect to expression of gag, po env genes and to generation of progeny virions, no replication-co virus in CD4-positive cells emerged. An assay for the single-ste replication of a defective viral genome dependent on trans complem by rev protein was established and used to monitor the early phase viral infection process. Viral clones with a mutation in the vif, or vpu gene displayed no abnormality in the early phase. In contr integrase mutant did not direct a marker gene expression after inf Together with an observation that the mutant lacked the ability to integrate, these results indicated that the integration was requir efficient viral gene expression and productive infection of **human immunodeficiency virus** type 1.

L28 ANSWER 13 OF 55 MEDLINE on STN

93021387. PubMed ID: 1404605. Complete nucleotide sequence, genome organization, and biological properties of **human immunodeficiency virus** type 1 in vivo: evidence for limited defectiveness and complementation. Li Y; Hui H; Burgess C J; Price R W; Sharp P M; H Shaw G M. (Department of Medicine, University of Alabama, Birmingh 35294-0007.) Journal of virology, **(1992 Nov)** 66 (11) 6587-600. code: 0113724. ISSN: 0022-538X. Pub. country: United States. Langu

English.

AB Previous studies of the genetic and biologic characteristics of h **immunodeficiency virus** type 1 (**HIV**-1) have by necessity used tissu culture-derived virus. We recently reported the molecular cloning full-length **HIV**-1 genomes directly from uncultured human brain tis (Y. Li, J. C. Kappes, J. A. Conway, R. W. Price, G. M. Sh B. H. Hahn, J. Virol. 65:3973-3985, 1991). In this report, we the biologic properties of these four clones and the complete nucl sequences and genome organization of two of them. Clones **HIV**-1YU **HIV**-1YU-10 were 9,174 and 9,176 nucleotides in length, differed by in nucleotide sequence, and except for a frameshift mutation in th gene in **HIV**-1YU-10, contained open reading frames corresponding to 5'-gag-pol-vif-**vpr**-tat-rev-vpu-env-nef-3' flanked by long terminal repeats. **HIV**-1YU-2 was fully replication competent, while **HIV**-1Y and two other clones, **HIV**-1YU-21 and **HIV**-1YU-32, were defective. three defective clones, however, when transfected into Cos-1 cell pairwise combination, yielded virions that were replication compet transmissible by cell-free passage. The cellular host range of **HIV**-1YU-2 was strictly limited to primary T lymphocytes and monocyte-macrophages, a property conferred by its external envelop glycoprotein. Phylogenetic analyses of **HIV**-1YU-2 gene sequences revealed this virus to be a member of the North American/European subgroup, with specific similarity to other monocyte-tropic virus V3 envelope amino acid sequence. These results indicate that **HIV** infection of brain is characterized by the persistence of mixtures fully competent, minimally defective, and more substantially alter forms and that complementation among them is readily attainable. addition, the limited degree of genotypic heterogeneity observed a **HIV**-1YU and other brain-derived viruses and their preferential tro for monocyte-macrophages suggest that viral replication within the nervous system may differ from that within the peripheral lymphoid compartment in significant and clinically important ways. The availability of genetically and biologically well characterized **H** clones from uncultured human tissue should facilitate future studi virus-cell interactions relevant to viral pathogenesis and drug an vaccine development.

L28 ANSWER 14 OF 55 MEDLINE on STN

92410594. PubMed ID: 1529528. Cell-free transmission of Vif mutant **HIV**-1. Fan L; Peden K. (Laboratory of Molecular Microbiology, NIAI NIH, Bethesda, Maryland 20892.) Virology, **(1992 Sep)** 190 (1) 19- Journal code: 0110674. ISSN: 0042-6822. Pub. country: United State Language: English.

AB To determine the phenotype of **human immunodeficiency virus** type 1 (**HIV**-1) defective in the production of Vif, mutations were introdu into the vif gene of infectious molecular clones of the LAI, MAL, strains. Previous results had demonstrated that viruses derived f these wild type clones display different replicative capacities on peripheral blood mononuclear cells (PBMC) and different tropisms f CD4-positive cell lines. Using cell-free infection, Vif mutants o

MAL, and ELI were found to have delayed kinetics and to produce le than their corresponding wild type viruses when propagated on most permissive cell lines. An additional mutation in the **vpr** gene in LAI strain had no effect on this phenotype. However, on one T cel the H9 cell line, two Vif mutants of LAI and a Vif.**Vpr** double mut were unable to replicate. Furthermore, Vif mutants from all three were only able to establish a productive infection on PBMC by cocu and not by cell-free infection. No defects in the processing of t virion proteins or the release of particles in the Vif mutants wer detected.

L28 ANSWER 15 OF 55 MEDLINE on STN

92371448. PubMed ID: 1324171. Evolution of the primate lentiviruse evidence from vpx and **vpr**. Tristem M; Marshall C; Karpas A; Hill F (Department of Haematology, University of Cambridge Clinical Schoo EMBO journal, **(1992 Sep)** 11 (9) 3405-12. Journal code: 8208664. I 0261-4189. Pub. country: ENGLAND: United Kingdom. Language: Englis

AB The genomes of the four primate lentiviral groups are complex and several regulatory or accessory genes. Two of these genes, **vpr** a are found in various combinations within the four groups and encod proteins whose functions have yet to be elucidated. Comparison of encoded protein sequences suggests that the vpx gene within the **H** group arose by the duplication of an ancestral **vpr** gene within th group. Evolutionary distance analysis showed that both genes were conserved when compared with viral regulatory genes, and indicated the duplication occurred at approximately the same time as the **HI** group and the other primate lentivirus groups diverged from a comm ancestor. Furthermore, although the SIVagm vpx proteins are homol the **HIV**-2 group vpx proteins, there are insufficient grounds from sequence analysis for classifying them as vpx proteins. Because o similarity to the **vpr** proteins of other groups, we suggest reclass the SIVagm vpx gene as a **vpr** gene. This creates a simpler and mor uniform picture of the genomic organization of the primate lentivi and allows the genomic organization of their common precursor to b defined; it probably contained five accessory genes: tat, rev, vif and **vpr**.

L28 ANSWER 16 OF 55 MEDLINE on STN

92365147. PubMed ID: 1501290. Effect of reciprocal complementation defective **human immunodeficiency virus** type 1 (**HIV**-1) molecular clones on **HIV**-1 cell tropism and virulence. Lori F; Hall L; Lusso Popovic M; Markham P; Franchini G; Reitz M S Jr. (Laboratory of Tu Biology, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20892.) Journal of virology, **(1992 Sep)** 66 (9 5553-60. Journal code: 0113724. ISSN: 0022-538X. Pub. country: U States. Language: English.

AB **Human immunodeficiency virus** type 1 (**HIV**-1) displays both interstrain and intrastrain genetic variability. Virus population extensive microheterogeneity have been defined as swarms or quasis Many of the genomes within **HIV**-1 swarms appear to be defective in

more genes required for viral replication. It is unclear to what defective viruses play a role in the process of **HIV**-1 infection o the pathogenesis of AIDS. We have isolated two biologically activ **HIV**-1 clones: LW 12.3, which contains defects in the vif and **vpr** genes, and MN ST.1, which has a defect in the vpu gene. LW 12.3 i to replicate in peripheral blood mononuclear cells (PBMC). The gr MN-ST.1 in SupT1 cells is marked by a 3-week lag in extracellular production and by the presence of unusually abundant viral buds. demonstrate here that coinfection of PBMC with these two partially defective **HIV**-1 clones extends the cellular host range of LW 12.3, significantly increases the replication rate of both viral genomes eliminates the delay in production observed with the vpu-defectiv ST.1. When the lesions in **vpr** and vif of LW 12.3 are repaired, th resultant virus grows normally in PBMC. This is also the case whe vif is repaired, indicating that complementation of LW 12.3 in PBM ST.1 is mediated by vif in trans. The reciprocal complementation in a dramatic increase of **HIV**-1 virulence. This two-component mo represents a simplified version of the in vivo situation and illus one way in which interaction of defective viruses could increase t spread of infection and progression of disease.

L28 ANSWER 17 OF 55 MEDLINE on STN

92309177. PubMed ID: 1613662. Infection of cynomolgus monkeys with chimeric **HIV**-1/SIVmac virus that expresses the **HIV**-1 envelope glycoproteins. Li J; Lord C I; Haseltine W; Letvin N L; Sodroski J (Department of Pathology, Harvard Medical School, Boston, Massachu Journal of acquired immune deficiency syndromes, **(1992)** 5 (7) 639 Journal code: 8812597. ISSN: 0894-9255. Pub. country: United State Language: English.

AB Replication competent chimeric viruses that express the gag and po proteins of SIVmac and the env proteins of **HIV**-1 were made. One chimeric virus, SHIV-4, that expresses the vif, vpx, **vpr**, and nef regulatory genes of SIV and the tat and rev regulatory genes of **H** replicated efficiently in cynomolgus monkeys. This model system c used to evaluate the efficacy of anti-**HIV**-1 vaccines directed at envelope glycoproteins, anti-**HIV**-1 envelope glycoprotein antiserum monoclonal antibodies, and anti-**HIV**-1 drugs designed to inhibit th rev, or env functions.

L28 ANSWER 18 OF 55 MEDLINE on STN

92260672. PubMed ID: 1533883. Dual regulation of silent and produc infection in monocytes by distinct **human immunodeficiency virus** t 1 determinants. Westervelt P; Henkel T; Trowbridge D B; Orenstein Heuser J; Gendelman H E; Ratner L. (Department of Medicine, Washin University School of Medicine, St. Louis, Missouri 63110.) Journa virology, **(1992 Jun)** 66 (6) 3925-31. Journal code: 0113724. ISSN: 0022-538X. Pub. country: United States. Language: English.

AB The regulation of **human immunodeficiency virus** type 1 infection a replication in primary monocytes was investigated by mutagenesis o recombinant proviral clones containing an env determinant required

infectivity of monocytes. Virus replication was assayed by determ of reverse transcriptase activity in culture fluids and by recover virus from monocytes following cocultivation with uninfected perip blood mononuclear cells. Three virus replication phenotypes were in monocytes: productive infection, silent infection, and no infec Incorporation of the monocytetropic env determinant in a full-len incapable of infection or replication in primary monocytes (no inf conferred the capacity for highly efficient virus replication in m (productive infection). Clones with the env determinant but lacki either functional **vpr** or vpu genes generated lower replication lev monocytes. Mutation of both **vpr** and vpu, however, resulted in nea complete attenuation of virus replication in monocytes, despite su virus recovery from infected monocytes by cocultivation with uninf peripheral blood mononuclear cells (silent infection). These find indicate a central role for the "accessory" genes vpu and **vpr** in productive **human immunodeficiency virus** type 1 replication in monocytes and indicate that vpu and **vpr** may be capable of function complementation.

L28 ANSWER 19 OF 55 MEDLINE on STN

92239218. PubMed ID: 1571200. **HIV** with multiple gene deletions as attenuated vaccine for AIDS. Desrosiers R C. (New England Regional Research Center, Harvard Medical School, Southborough, MA 01772-9 AIDS research and human retroviruses, **(1992 Mar)** 8 (3) 411-21. R Journal code: 8709376. ISSN: 0889-2229. Pub. country: United State Language: English.

AB Most viral vaccines currently in use in humans are live attenuated of virus that lack pathogenic potential. In general, such live at vaccines induce the strongest longest-lasting immunity. Live atte strains of **human immunodeficiency virus** type 1 (**HIV**-1) have not been previously considered as vaccines for acquired immunodeficien syndrome (AIDS) because of an inability to envision how their safe be adequately assured. This report describes a means for making l nonpathogenic strains of SIVmac and **HIV**-1 that cannot revert to a virulent form and a stepwise scheme for demonstrating their safety Replication-competent, multiply deleted derivatives that are curre being tested are missing combinations of auxiliary genes (nef, **vp** vpx, vpu) and certain control elements in the negative regulatory (NRE) of the long terminal repeat (LTR). Since these genomic regi in large part conserved among the SIVs and HIVs, they are likely t important for the virus life cycle in vivo. Consistent with this reasoning, a replication-competent nef deletion mutant of SIVmac apparently has lost most or all of its pathogenic potential, yet i induces strong immune responses. Multiply deleted derivatives of and **HIV**-1 will have to be extensively tested in animal models prio moving a promising **HIV**-1 candidate to initial trials in high-risk volunteers. Definitive evidence for safety and general acceptance this approach can only evolve gradually over a prolonged period of

L28 ANSWER 20 OF 55 MEDLINE on STN

92239216. PubMed ID: 1571198. Genetic and biological comparisons o pathogenic and nonpathogenic molecular clones of simian immunodefi virus (SIVmac). Luciw P A; Shaw K E; Unger R E; Planelles V; Stout Lackner J E; Pratt-Lowe E; Leung N J; Banapour B; Marthas M L. (De of Medical Pathology, University of California, Davis 95616.) AID research and human retroviruses, **(1992 Mar)** 8 (3) 395-402. Ref: Journal code: 8709376. ISSN: 0889-2229. Pub. country: United State Language: English.

AB Simian immunodeficiency virus (SIV) is a designation for a group o related but unique lentiviruses identified in several primate spec viral isolate from a rhesus macaque (i.e., SIVmac) causes a fatal AIDS-like disease in experimentally infected macaques, and several infectious molecular clones of this virus have been characterized. report presents the complete nucleotide sequence of molecularly cl SIVmac1A11, and comparisons are made with the sequence of molecula cloned SIVmac239. SIVmac1A11 has delayed replication kinetics in cells but replicates as well as uncloned SIVmac in macrophage cult Macaques infected with virus from the SIVmac1A11 clone develop ant antibodies, but virus does not persist in peripheral blood mononuc cells and no disease signs are observed. SIVmac239 infects lympho cells, shows restricted replication in cultured macrophages, and establishes a persistent infection in animals that leads to a fata AIDS-like disease. Both viruses are about 98% homologous at the nucleotide sequence level. In SIVmac1A11, the **vpr** gene as well a transmembrane domain of env are prematurely truncated, whereas the gene of SIVmac239 is prematurely truncated. Sequence differences noted in variable region 1 (V1) in the surface domain of the env g The potential implications of these and other sequence differences discussed with respect to the phenotypes of both viruses. This an model is critically important for investigating the roles of speci viral genes in viral/host interactions that cannot be studied in individuals infected with the **human immunodeficiency virus** (**HIV**).

L28 ANSWER 21 OF 55 MEDLINE on STN

92233680. PubMed ID: 1568359. [Acquired immunodeficiency virus (**H** Biological aspects and virological diagnosis]. Il virus dell'immunodeficienza acquisita (**HIV**-1). Aspetti biologici e diagn virologica. Dianzani F; Antonelli G; Turriziani O; Riva E. (Istitu Virologia, Universita degli Studi di Roma La Sapienza.) La Clinic terapeutica, **(1992 Feb)** 140 (2) 179-86. Ref: 20. Journal code: 03 ISSN: 0009-9074. Pub. country: Italy. Language: Italian.

AB The etiologic agent of the acquired immunodeficiency syndrome is a retrovirus included in the subclass of lentiviruses in view of cer characteristics common to these viruses. Their similarity is main represented by the extreme slowness of disease manifestation and b fact that **HIV**, like other lentiviruses, spreads within the organis spite of an immune reaction. The mechanism of replication is not dissimilar to that of other retroviruses except for the expression particularly large number of regulating genes the most important o are called tat, rev, and nef. Further genes with a probable regul

function are nef, **vpr**, and vpx. In the field of diagnostic virolo together with normal isolation tests, a technique that has become particularly important is PCR (polymerase chain reaction) which al obtain a relevant amount of specific viral DNA sequences by the us DNA polymerase and specific primers.

L28 ANSWER 22 OF 55 MEDLINE on STN

92198222. PubMed ID: 1550494. Biological characterization of **huma immunodeficiency virus** type 1 and type 2 mutants in human peripher blood mononuclear cells. Akari H; Sakuragi J; Takebe Y; Tomonaga K Kawamura M; Fukasawa M; Miura T; Shinjo T; Hayami M. (Research Cen Immunodeficiency, Kyoto University, Japan.) Archives of virology, **(1992)** 123 (1-2) 157-67. Journal code: 7506870. ISSN: 0304-8608. country: Austria. Language: English.

AB Mutants of **human immunodeficiency virus** type 1 (**HIV**-1) and type 2 (**HIV**-2), which have been shown to be infectious in established cel lines, were tested for ability to replicate and induce syncytium f in human peripheral blood mononuclear cells (PBMC). The vpu mutan **HIV**-1 showed depressed kinetics of replication in an established T line, as reported previously, but in PBMC, its replication was sim that of the wild type virus. The vpx gene of **HIV**-2 was required efficient virus propagation in PBMC, but not in an established T c line, as previously reported. However, the growth rates of the vp in PBMC preparations from two individuals were different. The res experiments on infection of PBMC with the vif and **vpr** mutants of and **HIV**-2 were essentially consistent with previous results of inf of established T cell lines. No negative effect of the nef gene p of **HIV**-1 and **HIV**-2 was observed. The abilities of the wild type v and the mutants of **HIV**-1 to induce syncytium formation in both PBM established cell lines were similar. In contrast, neither the wil nor any of the mutants of **HIV**-2 induced syncytium formation in PBM These results suggest that the functions of some genes can be dete only in mixed populations or primary cells such as PBMC. Studies roles of these genes in PBMC may provide a better understanding of functions in vivo.

L28 ANSWER 23 OF 55 MEDLINE on STN

92113582. PubMed ID: 1730943. Cells surviving infection by **human immunodeficiency virus** type 1: vif or vpu mutants produce non-infectious or markedly less cytopathic viruses. Kishi M; Nishi Sumiya M; Ohki K; Kimura T; Goto T; Nakai M; Kakinuma M; Ikuta K. (Institute of Immunological Science, Hokkaido University, Sapporo,) Journal of general virology, **(1992 Jan)** 73 (Pt 1) 77-87. Jour code: 0077340. ISSN: 0022-1317. Pub. country: ENGLAND: United King Language: English.

AB Under conditions in which a clonal cell line (M10) isolated from a cell lymphotrophic virus type I-transformed MT-4 cell line was co killed by infection with wild-type **human immunodeficiency virus** t 1 (**HIV**-1), equivalent M10 cells survived infection with **HIV**-1 vif **vpr** or vpu mutant virus after transient cytopathic effects. Sever

cell clones, which were isolated from the proliferating M10 cells infection with vif and vpu mutant viruses (M10/vif- and M10/vpu-) heterogeneous **HIV**-1 phenotypes in terms of **HIV**-1 antigen expressi their syncytium forming capacity, reverse transcriptase activity a infectivity of **HIV**-1 particles produced. When the replication kin of the **HIV**-1 particles produced were assayed in M10 cells, the clo could be classified into three types, i.e. type I producing non-i **HIV**-1, type II producing infectious **HIV**-1 with low replicative abi and type III producing infectious **HIV**-1 with a replicative ability similar to that of wild-type **HIV**-1. **HIV**-1 major viral cell prote and virus particle fractions were almost typical in types II and I not in type I. Electron microscopic examination of particles rele I, II and III clones revealed rare defective, predominantly defect essentially normal virions, respectively. Northern and Southern b analyses revealed no apparent deletion in the proviral DNA and mRN prepared from these clones, except in the case of type I and II cl isolated from M10/vpu- which contained large deletions in the mRNA gag and gag-pol proteins. Thus, M10 cells surviving infection wit **HIV**-1 vif or vpu mutants are heterogeneous, persistently expressin **HIV**-1 antigens and producing non-infectious or less cytopathic vir

L28 ANSWER 24 OF 55 MEDLINE on STN

92085377. PubMed ID: 1727477. Distinct RNA sequences in the gag re **human immunodeficiency virus** type 1 decrease RNA stability and inhibit expression in the absence of Rev protein. Schwartz S; Felb Pavlakis G N. (Human Retrovirus Section, National Cancer Institute-Frederick Cancer Research and Development Center, Maryla 21702-1201.) Journal of virology, **(1992 Jan)** 66 (1) 150-9. Jour code: 0113724. ISSN: 0022-538X. Pub. country: United States. Langu English.

AB The expression of Gag, Pol, Vif, **Vpr**, Vpu, and Env proteins from unspliced and partially spliced **human immunodeficiency virus** type (**HIV**-1) mRNAs depends on the viral protein Rev, while the producti Tat, Rev, and Nef from multiply spliced mRNAs does not require Rev investigate the difference between gag and tat mRNAs, we generated plasmids expressing tat-gag hybrid mRNAs. Insertion of the gag ge downstream of the tat open reading frame in the tat cDNA resulted inhibition of Tat production. This inhibition was caused, at leas part, by a decrease in the stability of the produced mRNA. Deleti gag defined a 218-nucleotide inhibitory sequence named INS-1 and at the 5' end of the gag gene. Further experiments indicated the of more than one inhibitory sequence in the gag-protease gene reg the viral genome. The inhibitory effect of INS-1 was counteracte positive effect mediated by the Rev-Rev-responsive element interac indicating that this sequence is important for Rev-regulated gag expression. The INS-1 sequence did not contain any known **HIV**-1 s sites and acted independently of splicing. It was found to have a unusually high AU content (61.5% AU), a common feature among cellu mRNAs with short half-lives. These results suggest that **HIV**-1 an possibly other lentiviruses have evolved to express unstable mRNAs

require additional regulatory factors for their expression. This may offer the virus several advantages, including the ability to e state of low or latent expression in the host.

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     (FILE 'HOME' ENTERED AT 07:59:12 ON 04 APR 2005)

     FILE 'USPATFULL' ENTERED AT 07:59:21 ON 04 APR 2005
L1             1 S US4808536/PN
L2             1 S US5001230/PN
L3             1 S US5874225/PN
               E WEINER DAVID B/IN
L4            57 S E1 OR E3
L5            33 S L4 AND (VPR OR VIRAL PROTEIN R)
L6            33 S L5 AND (ANTIBOD?)
L7            19 S L6 AND (ANTIBOD? (8W) VPR) OR (ANTIBOD? (8W) VIRAL PR
L8            18 S L7 AND (ANTIBOD?/CLM OR VPR/CLM OR VIRAL PROTEIN R/CL
L9         38258 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L10          728 S L9 AND (VPR OR VIRAL PROTEIN R)
L11          675 S L10 AND ANTIBOD?
L12           21 S L11 AND AY<1994
L13          141 S L10 AND (VPR/CLM OR VIRAL PROTEIN R/CLM)
L14           40 S L13 AND ANTIBOD?/CLM
L15            2 S L14 AND AY<1994
L16            6 S L13 AND AY<1994
L17            4 S L16 NOT L15

     FILE 'WPIDS' ENTERED AT 08:20:18 ON 04 APR 2005
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               E WEINER D B/IN
L18           66 S E3
L19           10 S L18 AND (VPR OR VIRAL PROTEIN R)
L20          189 S (VPR OR VIRAL PROTEIN R)
L21            0 S L20 AND (VPR/AB OR VIRAL PROTEIN R/AB)
L22           32 S L20 AND AY<1994
L23           30 S L22 NOT L19

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L24            1 S US6706268/PN

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L25       150879 S (HIV OR HUMAN IMMUNODEFICIENCY VIRUS)
L26          677 S L25 AND (VPR OR VIRAL PROTEIN R)
L27          606 S L26 AND (VPR/AB OR VIRAL PROTEIN R/AB)
L28           55 S L27 AND PY<1994

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ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
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